UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended **December 31, 2022**

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from ____ to ____.

Commission file number: 000-51354

AEMETIS, INC.

(Exact name of registrant as specified in its charter)

Delaware	26-1407544
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification Number)*

20400 Stevens Creek Blvd., Suite 700
Cupertino, CA 95014
(Address of principal executive offices)

Registrant's telephone number (including area code): **(408) 213-0940**

Securities registered under Section 12(b) of the Exchange Act:
Common Stock, Par Value $0.001
(Title of class)

Title of each class of registered securities	Trading Symbol	Name of each exchanges on which registered
Common Stock, $0.001 par value	AMTX	NASDAQ

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☑

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or Section 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☑
Non-accelerated filer	☐	Smaller reporting company	☑
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐   No ☑

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately $145.6 Million as of June 30, 2022 based on the average bid and asked price on the NASDAQ Global Market reported for such date. This calculation does not reflect a determination that certain persons are affiliates of the registrant for any other purpose.

The number of shares outstanding of the registrant's Common Stock on February 28, 2023 was 36,652,122 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Registrant's 2022 Annual Meeting of Stockholders which will be filed with the Securities and Exchange Commission within 120 days after the end of the Registrants fiscal year ended December 31, 2022, are incorporated by reference in Part III of this Form 10-K.

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PART I

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

On one or more occasions, we may make forward-looking statements in this Annual Report on Form 10-K, including statements regarding our assumptions, projections, expectations, targets, intentions or beliefs about future events or other statements that are not historical facts. Forward-looking statements in this Annual Report on Form 10-K include, without limitation, statements regarding management's plans; trends in market conditions with respect to prices for inputs for our products versus prices for our products; our ability to leverage approved feedstock pathways; our ability to leverage our location and infrastructure; our ability to incorporate lower cost, non-food advanced biofuels feedstock at the Keyes plant; our ability to adopt value-add by-product processing systems; our ability to expand into alternative markets for biodiesel and its by-products, including continuing to expand our sales into international markets; our ability to maintain and expand strategic relationships with suppliers; our ability to access governmental carbon reduction incentives; our ability to construct and fund diary digesters; our ability to supply gas into the transportation markets; our ability to continue to develop new and to maintain and protect new and existing intellectual property rights; our ability to adopt, develop and commercialize new technologies; our ability to refinance our senior debt on more commercial terms or at all; our ability to continue to fund operations and our future sources of liquidity and capital resources; our ability to sell additional notes under our EB-5 note program and our expectations regarding the release of funds from escrow under our EB-5 note program; our ability to improve margins; and our ability to raise additional capital. Words or phrases such as "anticipates," "may," "will," "should," "believes," "estimates," "expects," "intends," "plans," "predicts," "projects," "targets," "will likely result," "will continue" or similar expressions are intended to identify forward looking statements. These forward-looking statements are based on current assumptions and predictions and are subject to numerous risks and uncertainties. Actual results or events could differ materially from those set forth or implied by such forward-looking statements and related assumptions due to certain factors, including, without limitation, the risks set forth under the caption "Risk Factors" below, which are incorporated herein by reference as well as those business risks and factors described elsewhere in this report and in our other filings with the Securities and Exchange Commission (the "SEC").

We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

We obtained the market data used in this report from internal company reports and industry publications. Industry publications generally state that the information contained in those publications has been obtained from sources believed to be reliable, but their accuracy and completeness are not guaranteed, and their reliability cannot be assured. Although we believe market data used in this Form 10-K is reliable, it has not been independently verified.

Unless the context requires otherwise, references to "we," "us," "our," and "the Company" refer specifically to Aemetis, Inc. and its subsidiaries.

Item 1. Business

General

Founded in 2006 and headquartered in Cupertino, California, Aemetis, Inc. (collectively with its subsidiaries on a consolidated basis referred to herein as, "Aemetis," the "Company," "we," "our" or "us") is an international renewable natural gas, and renewable fuels company focused on the acquisition, development and commercialization of innovative negative carbon intensity products and technologies that replace traditional petroleum-based products. We operate in three reportable segments consisting of "California Ethanol," "California Dairy Renewable Natural Gas," and "India Biodiesel." We have other operating segments determined *not* to be reportable segments and are collectively represented by the "All Other" category. At Aemetis, our mission is to generate sustainable and innovative renewable fuel solutions that benefit communities and restore our environment. We do this by building a local circular bioeconomy utilizing agricultural waste to produce low carbon, advanced renewable fuels that reduce greenhouse gas ("GHG") emissions and improve air quality by replacing traditional petroleum-based products. For revenue and other information regarding our operating segments, see Note 11 - Segment Information, of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K.

Our California Ethanol segment consists of a 65 million gallon per year capacity ethanol production facility located in Keyes, California (the "Keyes Plant") that we own and operate. In addition to low carbon renewable fuel ethanol, the Keyes Plant produces Wet Distillers Grains ("WDG"), Distillers Corn Oil ("DCO"), Carbon Dioxide ("CO2") and Condensed Distillers Solubles ("CDS"), all of which are sold as animal feed to more than 80 local dairies and feedlots, with CO_2 sold to food, beverage, and industrial customers. We have several energy efficiency initiatives focused on significantly lowering the carbon intensity of our fuels, primarily by decreasing our use of petroleum-based natural gas. These energy efficiency projects include: high efficiency heat exchangers; the Mitsubishi ZEBREX™ ethanol dehydration system; a two-megawatt solar microgrid with battery storage; the Allen Bradley Decision Control System (DCS) to manage and optimize energy use and other plant operations; and the Mechanical Vapor Recompression (MVR) system to reuse steam. These projects are expected to reduce petroleum natural gas use by converting key Keyes Plant processes to use electricity rather than natural gas and powering systems using low-carbon-intensity hydroelectric electricity or electricity produced onsite from solar panels.

In the third quarter of 2022, we completed the installation and began the operation of the ZEBREX™ ethanol dehydration system at the Keyes Plant, a key first step in the electrification of the Keyes Plant, that is expected to significantly reduce the use of petroleum-based natural gas as process energy at the plant. The electrification, along with the future installation of the two-megawatt zero carbon intensity solar microgrid system and the mechanical vapor recompression (MVR) system, will significantly reduce GHG emissions from the production facility and decrease the carbon intensity (CI) of fuel produced at the Keyes Plant. The lower CI of ethanol produced at the Keyes Plant will allow us to realize a higher price for the ethanol produced and sold at the Keyes Plant.

Our California Dairy Renewable Natural segment Aemetis Biogas or "ABGL," constructs and operates bio-methane anaerobic digesters at local dairies near the Keyes Plant (many of whom also purchase WDG produced by the Keyes Plant as animal feed); transports the biogas via pipeline to the Keyes Plant site; converts the biogas to Renewable Natural Gas ("RNG") which is then delivered to customers through the PG&E natural gas pipeline.

The Aemetis Biogas network includes the Aemetis Biogas Central Dairy Project, which operates 40 miles of completed biogas pipeline; four operating dairy digesters; five dairy digesters that are under construction; a centralized biogas-to-RNG conversion facility located at the Keyes Plant site; and a renewable natural gas interconnection with the PG&E utility gas pipeline. A total of 30 dairies have signed contracts with Aemetis Biogas in connection with participation in the Aemetis Biogas Central Dairy Project.

The dairy digesters are connected via an underground private pipeline owned by Aemetis to a gas cleanup and compression unit at the Keyes Plant to produce dairy renewable natural gas ("RNG"). Upon receiving the bio-methane from the dairies, impurities are removed, and the bio-methane is converted to negative carbon intensity RNG that is injected into the statewide PG&E gas utility pipeline for use as transportation fuel or used as renewable process energy at the Keyes Plant.

Our India Biodiesel segment owns and operates a plant in Kakinada, India ("Kakinada Plant") with a nameplate capacity of 150 thousand metric tons per year, or about 50 million gallons per year, producing high quality distilled biodiesel and refined glycerin for customers in India and Europe. We believe the Kakinada Plant is one of the largest biodiesel production facilities in India on a nameplate capacity basis. Kakinada Plant is capable of processing a variety of vegetable oils and animal fat waste feedstocks into biodiesel that meets international product standards. Our Kakinada Plant can also distill the crude glycerin byproduct from the biodiesel refining process into refined glycerin, which is sold to the pharmaceutical, personal care, paint, adhesive, and other industries.

Our All Other segment consists of: Carbon Zero biofuels production plants to produce renewable diesel and sustainable aviation fuel; Carbon Capture and Sequestration compression system and injection wells; a research and development facility in Minneapolis, Minnesota; and our corporate offices in Cupertino, California.

Our Carbon Zero biofuels production plants are designed to produce low or negative carbon intensity sustainable aviation fuel ("SAF") and renewable diesel fuel ("RD") utilizing low carbon hydroelectric electricity, renewable hydrogen and non-edible renewable oils sourced from existing Aemetis biofuels plants and other sources. The first Carbon Zero plant is scheduled to be built in Riverbank, California at the 125-acre former Riverbank Army ammunition plant. The Riverbank plant is expected to utilize zero carbon hydroelectric and other renewable power available onsite to produce 90 million gallons per year of SAF, RD, and other byproducts. The plant is expected to supply the aviation and truck markets with ultra-low carbon renewable fuels to reduce GHG emissions and other pollutants associated with conventional petroleum-based fuels. By producing ultra-low carbon renewable fuels, the Company expects to capture high value D3 Renewable Identification Numbers ("RINs") under the federal Renewable Fuel Standard ("RFS"), generate California Low Carbon Fuel Standard ("LCFS") credits, and produce Inflation Reduction Act tax credits.

Our Carbon Capture subsidiary was established to build Carbon Capture and Sequestration ("CCS") projects that generate LCFS and IRS 45Q tax credits by compressing and injecting CO_2 into deep wells which are monitored for emissions to ensure the long-term sequestration of carbon underground. California's Central Valley has been identified as one of the world's most favorable regions for large-scale CO_2 injection projects due to the subsurface geologic formation that absorbs and retains CO_2 gas. The two initial Aemetis CCS injection projects are expected to capture and sequester more than two million metric tons per year of CO_2 at the Aemetis biofuels plant sites in Keyes and Riverbank, California. In July 2022, Aemetis purchased 24 acres located on the Riverbank Industrial Complex site in Riverbank, California to develop a CCS injection well with more than 1 million metric tonnes per year of CO_2 sequestration capacity. The Company plans to construct a characterization well at each site to obtain soil information for permitting as required for the EPA Class VI CO_2 injection well permit application.

Our Minneapolis, Minnesota research and development laboratory develops efficient conversion technologies using low carbon intensity and waste feedstocks to produce low or below zero carbon intensity biofuels and biochemicals. We are focused on processes that extract sugar from cellulosic feedstocks and then utilize the remaining biomass to produce low carbon renewable hydrogen for the production of sustainable aviation fuel, renewable diesel and potentially sale of renewable hydrogen to third parties as transportation fuel.

Strategy

Key elements of our strategy include:

California Ethanol

Diversify and expand revenue and cash flow by continuing to improve the energy efficiency of the Keyes Plant as well as develop and adopt value-added by-product processing systems and optimize other systems. In April 2012, we installed a DCO extraction unit at the Keyes Plant and began extracting corn oil for sale into the livestock feed market. During 2014, we installed a second oil extraction system to further improve corn oil yields from this process. During late 2017, we entered into agreements to sell substantially all of the CO_2 produced at the Keyes Plant to Messer Gas, which built a liquid CO_2 plant adjacent to the Keyes Plant on five acres of land owned by Aemetis that became operational in the second quarter of 2020. During the third quarter of 2022, we installed and are now commissioning a Mitsubishi Chemical Corporation ZEBREX™ ethanol dehydration system as a key first step in the electrification of the Keyes Plant. The electrification of the Keyes Plant is expected to significantly reduces our use of petroleum-based natural gas, which lowers the carbon intensity of our fuel ethanol. We have plans to install an MVR system that allows for the compression of process vapor to steam which is expected to result in a significant reduction of petroleum natural gas consumption. Additionally, we are developing the Aemetis Integrated Solar Microgrid Systems (AIMS) with battery backup that allows for the displacement of natural gas electricity with zero carbon intensity electricity, which is expected to be completed at the Keyes Plant in the third quarter of 2023. We continue to evaluate and, as allowed by available financing and free cash flow from operations, adopt additional value-added processes that decrease costs and increase the value of the ethanol, WDG, DCO, CDS, and CO_2 produced at the Keyes Plant with an emphasis on processes that provide low-cost or cellulosic-based feedstocks to augment current feedstocks.

California Dairy Renewable Natural Gas

Leverage our position as owner/operator of animal feed production to build dairy digesters and connected pipeline to expand the network thereby increasing revenues and profitability. In December 2018, we benefited from our established relationship with more than 80 California's Central Valley dairies by signing leases and raising funds to construct dairy digesters that collect bio-methane and build pipelines that convey bio-methane to our Keyes Plant. We have constructed our first four digesters, and expect to have three more dairy digesters operational by the end of March 2023, installed forty miles of biogas pipeline, and commenced operations of the initial pipeline and digesters in the third quarter of 2020. During 2022, we constructed a centralized biogas cleanup and renewable natural gas interconnection with the PG&E pipeline. We also secured low-cost, USDA guaranteed financing at a 5.95% fixed interest and has an USDA annual renewal fee of 0.25%, with interest only payments to be paid in monthly installments, and a maturity date of March 4, 2023, for the construction of six dairies and related systems. We plan to continue to use this financing mechanism for future diary construction. In addition, we have signed agreements with approximately 30 additional dairies to construct additional dairy digesters. We plan on progressing our business plan by continuing to expand the dairy digesters and pipeline network.

India Biodiesel

Capitalize on recent policy changes by the Government of India. We plan to continue to pursue sales of biodiesel to Oil Marketing Companies ("OMC's") which are owned by the Indian government, as well as sales to traditional bulk, fleet, industrial, retail, and transportation biodiesel markets in India. We believe these markets have become more attractive as a result of potential changes to government tax structures and policies, as well as new marketing channels that may open as a result of changes to government policy. New taxation is expected to be enforced beginning in April 2023, as a Goods and Services Tax ("GST") on diesel sales has encouraged the procurement of biodiesel by the OMC's and private oil refiners in India.

Pursue tender offers from Government Oil Marketing Companies. We plan to continue to qualify and bid on contracts under the Indian government's updated 2022 National Biofuels Policy of mixing biodiesel at a 5% blend ratio with diesel. During the third and fourth quarters of 2022, our Kakinada Plant bid and won supply contracts to supply biodiesel to the government Oil Marketing Companies: Hindustan Petroleum, Bharat Petroleum, and Indian Oil Corporation. During 2022, the formula for setting the OMC offer price was modified to allow biodiesel producers in India to begin production and supply of product at economically viable levels under these contracts.

Diversify our feedstocks from India. We designed our Kakinada Plant with the capability to produce biodiesel from multiple feedstocks and plan to continue efforts to procure and process these diversified feedstocks where and when economically feasible. In 2009, we began to produce biodiesel from a variety of plant-based feedstocks. Between 2014 and 2019, we further diversified our feedstock to include animal oils and fats, as well as refined, bleached and deodorized stearin, crude stearin, and RBD stearin. In 2018, we completed a pretreatment unit at the Kakinada Plant to convert up to 5% high free fatty acid ("FFA") feedstocks into oil that can be used to produce biodiesel, which was further upgraded in 2019 to convert up to 20% high FFA feedstocks, both of which are available at lower cost than our traditional feedstocks. We are now utilizing a proprietary pre-treatment process to utilize lower-cost Fatty Acid Distillate to produce biodiesel. During 2021, the Company, after receiving approval from the Pollution Control Board of India for use of Refined Animal Tallow for production of biodiesel, began procuring Refined Animal Tallow. The Company has built animal tallow refining capacity and is exploring the export of Refined Animal Tallow to the United States for sale to producers of renewable diesel and sustainable aviation fuel.

Develop and commercially deploy technologies to produce high-margin products. We plan to continue investing in the conversion of lower quality, waste oils into higher value biofuels, including renewable diesel and sustainable aviation fuels. Additionally, we continue to evaluate improvements to the throughput capacity and efficiency of our production facilities. We plan to invest in those areas that allow for more efficient and higher throughput for the processing of biodiesel and refined glycerin. The technologies for these conversion process may be licensed from third parties or internally developed.

Evaluate and pursue technology acquisition opportunities. We intend to evaluate and pursue opportunities to acquire technologies and processes that result in accretive earnings opportunities as financial resources and business prospects make the acquisition of these technologies and processes advisable. In addition, we may also seek to acquire companies, or enter into licensing agreements or form joint ventures with companies that offer prospects for the adoption of accretive earnings business opportunities.

Other Initiatives

Leverage technology for the development and production of additional advanced biofuels and renewable chemicals. We continue to evaluate new technology, develop technologies under our existing patents and conduct research and development to produce low or negative carbon intensity advanced biofuels from renewable feedstocks. Our objective is to continue to commercialize our portfolio of technologies and expand the adoption of these advanced biofuels and bio-chemicals technologies.

We hold certain rights to technologies for the conversion of orchard, forest, dairy, and construction and demolition waste wood into low carbon renewable fuel. We intend to utilize this technology to produce renewable hydrogen for use in the production of SAF and diesel fuel at the Riverbank Carbon Zero facility using agricultural biomass waste abundantly available from orchard waste wood in California's Central Valley. We intend to expand production facilities to build additional plants in California to utilize the estimated 1.6 million tons of annual waste orchard wood in Central California, as well as other waste wood feedstocks.

Leverage site control of our Keyes and Riverbank properties to construct production plants to produce low carbon and negative carbon intensity products. Initiatives are underway to construct facilities that produce SAF and renewable diesel at our Riverbank location, and to generate LCFS and IRS 45Q credits by injecting CO_2 into wells at both our Keyes Plant and Riverbank locations. Upon completion of construction and startup, these projects are expected to increase revenues and cash flows.

Leverage tax and other governmental incentives to supplement financial performance. We have initiatives underway to realize the financial incentive provisions of the Inflation Reduction Act of 2022 by qualifying for renewable energy credits, whether in the form of an Investment Tax Credit, Producers Tax Credit or other credits and monetize the credits using the transferability provisions of this act.

Acquire, license our technologies to, or joint venture with other ethanol and biodiesel plants. There are approximately 200 ethanol plants that are operational in the U.S., as well as biofuels plants in Brazil, Argentina, India and elsewhere in the world that could be upgraded to expand revenues and improve their cash flow using technology commercially deployed or licensed by us. After developing and commercially demonstrating technologies at the Keyes Plant, Kakinada Plant and the Riverbank Facility, we will evaluate on an opportunistic basis the benefit of acquiring ownership stakes in other biofuel production facilities and/or entering into joint venture or licensing agreements with other ethanol, renewable diesel or renewable SAF facilities.

Evaluate and pursue technology acquisition opportunities. We intend to evaluate and pursue opportunities to acquire technologies and processes that result in accretive value opportunities as financial resources and business prospects make the acquisition of these technologies and processes advisable. In addition, we may also seek to acquire companies, enter into licensing agreements or form joint ventures with companies that offer prospects for the adoption of technologies that would be accretive to earnings.

Additionally, we continue to evaluate technologies from our existing and planned operations for the development of the property in Goodland, Kansas.

2022 Highlights

California Ethanol

During 2022, we produced five products: denatured fuel ethanol, WDG, DCO, CO_2, and CDS. We sell the ethanol we produce through a single fuel marketing company, Murex LLC ("Murex"). We own the ethanol stored in our finished goods tank and deliver this ethanol directly to our fuel marketing company customers. WDG are sold to A.L. Gilbert and DCO is sold to other customers under the J.D. Heiskell Purchase Agreement. CDS are sold to various local third parties. We began selling CO_2 to Messer Gas in the second quarter of 2020. California Ethanol revenue is dependent on the price of ethanol, WDG, CDS, and DCO.

The following table sets forth information about our production and sales of ethanol and WDG in 2022 and 2021:

	Years ended December 31, 2022	Years ended December 31, 2021	2022 vs 2021 % Change
Ethanol			
Gallons Sold (in millions)	59.0	59.8	-1.3%
Average Sales Price/Gallon	$ 2.81	$ 2.72	3.3%
WDG			
Tons Sold (in thousands)	397	404	-1.7%
Average Sales Price/Ton	$ 128	$ 103	24.3%

California Dairy Renewable Natural Gas

During 2021, we used biogas from our diary digesters and pipeline network to supply boilers at our Keyes Plant, and accordingly monetize the gas produced with a lower carbon intensity score attached to the related ethanol sales. During 2022, we constructed a centralized biogas cleanup and renewable natural gas interconnection with the PG&E pipeline, and began utilizing this connection to deliver dairy RNG to the PG&E interconnect, and further allow for the storage of this gas, while we await the verification of our dairy digester pathways.

The following table sets forth information about our production and sales of dairy RNG in 2022 and 2021:

	Years ended December 31, 2022	Years ended December 31, 2021	2022 vs 2021 % Change
Dairy Renewable Natural Gas			
MMBtu external sales (in thousands)	8.4	-	100.0%
MMBtu stored as inventory (in thousands)	9.0	-	100.0%
MMBtu intercompany sales (in thousands)	48.6	53.0	-8.3%

India Biodiesel

In 2022, we primarily produced two products at the Kakinada Plant: biodiesel and refined glycerin produced from further processing of the crude glycerin produced as a by-product of the production of biodiesel. During the third and fourth quarters of 2022, our Kakinada Plant bid and won supply contracts to supply biodiesel to the government Oil Marketing Companies: Hindustan Petroleum, Bharat Petroleum, and Indian Oil Corporation. During 2022, the formula for setting the OMC offer price was modified to allow biodiesel producers in India to begin production and supply of product at economically viable levels under these OMC contracts.

The following table sets forth information about our production and sales of biodiesel and refined glycerin in 2022 and 2021:

	Years ended December 31, 2022	Years ended December 31, 2021	2022 vs 2021 % Change
Biodiesel			
Metric tons sold (in thousands) (1)	17.7	0.5	3440.0%
Average Sales Price/Ton	$ 1,526	$ 1,024	49.0%
Refined Glycerin			
Metric tons sold (in thousands) (1)	1.2	0.1	1100.0%
Average Sales Price/Ton	$ 850	$ 956	-11.1%

(1) 1 metric ton is equal to 1,000 kilograms (approximately 2,204 pounds).

Competition

California Ethanol – According to the U.S. Energy Information Agency (the "EIA"), on January 1, 2022, there were approximately 192 commercial ethanol production facilities in the U.S. with a combined production of approximately 17.4 billion gallons per year. The production of ethanol is a commodity-based business where producers compete on the basis of price. We sell ethanol into the Northern California market. However, since there is insufficient production capacity in California to supply the state's total fuel ethanol consumption (in excess of 1.5 billion gallons annually), we compete with ethanol transported into California from Midwestern producers or imported from other countries, primarily Brazil. Similarly, our co-products, principally WDG and DCO, are sold into local California markets and compete with DDG and DCO imported into the California markets as well as with alternative feed products.

California Dairy Renewable Natural Gas – Dairy renewable natural gas competes with other renewable gas or petroleum-based natural gas for the value of the gas molecule and competes with dairy RNG, landfill biogas, or other biofuels for qualifying volumes of renewable biofuel volumes under the federal Renewable Fuel Standard and the California Low Carbon Fuel Standard. When used as a component of the energy inputs at our Keyes plant, the dairy renewable natural gas results in a lower pathway score, allowing us to sell ethanol into the market with the more valuable carbon attributes, and competing on the same basis as our California ethanol. At the present time, the highest value for dairy based RNG is in the transportation fuel market.

India Biodiesel – With respect to biodiesel sold as fuel, we compete primarily with the producers of petroleum diesel, consisting of the three Government Oil Marketing Companies: Indian Oil Corporation, Bharat Petroleum and Hindustan Petroleum, and two private oil companies: Reliance Petroleum and Essar Oil, all of whom have significantly larger market shares than we do and control a significant share of the distribution network. These competitors also purchase our product for blending and further sales to their customers. We compete primarily on the basis of price, quality and reliable delivery, since our plant can produce distilled biodiesel and has historically been a more reliable and high-quality supplier than some other biodiesel producers in India.

With respect to biodiesel sold directly to fleets and other customers, we supply logistics companies that operate fleets of trucks, ocean port facilities with extensive trucking activities, beverage distributors, cement ready-mix suppliers, mining companies, infrastructure companies, and other companies that use diesel for transportation.

With respect to crude and refined glycerin, we compete with other glycerin producers and refiners selling products into the personal care, paints and adhesive markets primarily on the basis of price and product quality.

Customers

California Ethanol – We sell 100% of the ethanol we produce through a Fuel Ethanol Purchase and Sale Agreement with Murex LLC, who markets 100% of our fuel ethanol. WDG are sold to A.L.Gilbert and DCO is sold to other customers under the J.D.Heiskell Purchasing Agreement. CDS are sold to various local third parties. We began selling CO_2 to Messer Gas in the second quarter of 2020. California Ethanol revenue is dependent on the price of ethanol, WDG, CDS, and DCO.

California Dairy Renewable Natural Gas – During 2021, we sold 100% of the biogas produced to the California Ethanol plant for use in the production of ethanol. During 2022, we completed the construction of the interconnection with the statewide utility pipeline and are now able to sell to a broader range of customers. We are developing the capability to dispense fuel through a RNG station at or near the California Ethanol plant.

India Biodiesel – During 2022, we derived 96%, and 4% of our sales from biodiesel and other sales, respectively. Our OMC customers accounted for 95% of biodiesel sales of our consolidated India Biodiesel segment revenues. During 2021, we derived 67%, 18%, and 15% of our sales from biodiesel, refined glycerin, and other sales respectively. One biodiesel customer accounted for more than 10% of our consolidated India Biodiesel segment revenues at 66% and one refined glycerin customer accounted for 16% of our consolidated India Biodiesel segment revenues in 2021.

Pricing

California Ethanol – Revenue is primarily dependent on the price of ethanol, WDG, and DCO. Ethanol pricing is influenced by local and national inventory and production levels, imported ethanol, corn prices and gasoline demand, and is determined pursuant to a marketing agreement with a single fuel marketing customer and is generally based on daily and monthly pricing for ethanol delivered to the San Francisco Bay Area, California, as published by Oil Price Information Service ("OPIS"), as well as quarterly contracts negotiated by our marketing company with local fuel blenders. The price for WDG is influenced by the price of corn, the supply and price of dried distillers grains, and demand from the local dairy and feed markets and determined monthly pursuant to a marketing agreement with A.L. Gilbert and is generally determined in reference to the local price of dried distillers grains and other comparable feed products. Our revenue is further influenced by the price of natural gas, our decision to operate the Keyes Plant at various capacity levels, conduct required maintenance, and respond to biological processes affecting output.

California Dairy Renewable Natural Gas – Revenue is dependent on the price of petroleum natural gas, the price of alternative sources of renewable gas in the market, the value of environmental attributes and the method for selling the gas. Renewable natural gas pricing is influenced by local and national inventory levels, local and national gas production, petroleum natural gas production, and value of the related environmental attributes. Further pricing is determined by the method of distribution and use, with each of the uses (transportation fuel dispensed at renewable natural gas fueling stations or replacement of natural gas at the California Ethanol plant, sell through the natural gas pipeline, or sell directly through renewable natural gas stations) providing separate pricing options.

India Biodiesel – During 2022, the formula for setting the OMC offer price was modified to allow biodiesel producers in India to begin production and supply of product at economically viable levels under these contracts. In India, the price of biodiesel is based on the price of petroleum diesel, which floats with changes in the price determined by the international markets. Biodiesel sold into Europe is based on the spot market price, but a recent Indian government ban on exports closed this market for the Company for the time being. We sell our biodiesel primarily to Government Oil Marketing Companies, transport companies, resellers, distributors and private refiners on an as-needed basis. We have no long-term sales contracts. Our biodiesel pricing is related to the price of petroleum diesel, and the increase in the price of petroleum diesel is expected to favorably impact the profitability of our India operations.

Raw Materials and Suppliers

California Ethanol – We entered into a Corn Procurement and Working Capital Agreement with J.D. Heiskell in March 2011, which we amended in May 2020 (the "Heiskell Supply Agreement"). Under the Heiskell Supply Agreement, we agreed to procure number two yellow dent corn from J.D. Heiskell, with the ability to obtain corn from other sources subject to certain conditions. However, in 2021 and 2022, all our corn supply was purchased from J.D. Heiskell pursuant to the Heiskell Supply Agreement. Title to the corn and risk of loss pass to us when the corn is deposited into our weigh scale. The agreement is automatically renewed for additional one-year terms. The current term is set to expire on December 31, 2023, with automatic renewals for additional one-year terms.

California Dairy Renewable Natural Gas – Biogas is produced by anerobic digesters located on property that Aemetis leases from dairy operators. We construct and own the dairy digesters and pipeline that connects the digesters together and feeds biogas into our gas clean up unit located at our California Ethanol plant for the production of RNG. Our dairy agreements include a land lease and manure supply agreement with the dairy where the digester is located. Generally, these leases are for 20-25 years with 10 year options to renew and are based upon the herd size and value of environmental attributes.

India Biodiesel – In 2022 and 2021, a significant amount of our biodiesel was derived from processing refined palm stearin, which was sourced locally. The byproduct of using high fat RBD/crude palm stearin is PFAD, which can be processed further into biodiesel or sold directly as a product into the market. During 2021, the Company, after receiving approval from the Pollution Control Board of India for use of Refined Animal Tallow for production of biodiesel, began procuring Refined Animal Tallow. The Indian biodiesel industry is requesting the Indian government to allow the export of biodiesel to other countries. The Company is exploring the export of Animal Tallow based biodiesel to California to capture LCFS credits. In addition to feedstock, the Kakinada Plant requires quantities of methanol and chemical catalysts for use in the biodiesel production process. These chemicals are also readily available and sourced from a number of suppliers surrounding the Kakinada Plant. We are not dependent on sole source or limited source suppliers for any of our raw materials or chemicals.

Sales and Marketing

California Ethanol – We sell 100% of the ethanol we produce through a Fuel Ethanol Purchase and Sale Agreement with Murex, who markets 100% of our fuel ethanol. WDG are sold to A.L.Gilbert and DCO is sold to other customers under the J.D.Heiskell Purchasing Agreement. CDS are sold to various local third parties. We began selling CO_2 to Messer Gas in the second quarter of 2020.

In March 2011, we entered into a WDG Purchase and Sale Agreement with A.L. Gilbert, pursuant to which A.L. Gilbert agreed to market, on an exclusive basis, all of the WDG we produce. The current term is set to expire on December 31, 2023 with automatic one-year renewals.

In October 2021, we entered into Fuel Ethanol Purchase and Sale Agreement with Murex, who now markets 100% of our fuel ethanol. The initial term of our agreement with Murex ends on October 31, 2023, with automatic one-year renewals thereafter.

California Dairy Renewable Natural Gas – During 2021, we sold 100% of the biogas produced to the California Ethanol plant for use in the production of ethanol. During 2022, we completed construction of our pipeline and interconnection with the utility gas pipeline and are now able to sell to a broader range of customers across the state. We are developing the capability to dispense fuel through a RNG station at or near the California Ethanol plant.

India Biodiesel - We sell our biodiesel and refined glycerin to (i) end-users utilizing our own sales force and independent sales agents, (ii) brokers who resell the product to end-users and (iii) Government Oil Marketing Companies. We pay a sales commission on sales arranged by independent sales agents.

Commodity Risk Management Practices

California Ethanol – The cost of corn and the price of ethanol are volatile and the correlation of the pricing of these commodities form the basis for the profit margin at our Keyes Plant. We are, therefore, exposed to commodity price risk. Our risk management strategy is to operate in the physical market by purchasing corn and selling ethanol on a daily basis at the then prevailing market price. We monitor these prices daily to test for an overall positive variable contribution margin. We periodically explore and utilize methods of mitigating the volatility of our commodity prices through hedging strategies. We sold our WDG during 2022 on a month-to-month basis, however, we monitor and periodically sell on a quarterly basis when we believe longer term contracts allow us to better manage commodity and pricing risk.

California Dairy Renewable Natural Gas – The cost of leasing and operating dairy digesters is dependent on the size of the dairy herd and the value of the environmental attributes. The price of renewable natural gas is volatile and uncorrelated with the cost of feedstock. We therefore are exposed to ongoing and substantial market price risk for our supply of dairy natural gas. Our risk management strategy is to arrange for the payment to dairy operators based, in part, upon the value of the environmental attributes, specifically the LCFS in order to reduce this lack of market correlation. We monitor these prices daily to test for an overall positive variable contribution margin.

India Biodiesel – The cost of crude or refined palm stearin and the price of biodiesel are volatile and are generally uncorrelated. We therefore are exposed to ongoing and substantial commodity price risk at our Kakinada plant. Our risk management strategy is to produce biodiesel in India only when we believe we can generate positive gross margins and to idle the Kakinada Plant during periods of low or negative gross margins. Additionally, we are pursuing relationships with large oil companies and trading partners pursuant to which we may match the procurement of feedstocks with the production of biofuels for sales that provide a fixed margin.

In addition, to minimize our commodity risk, we modified the processes within our facility to utilize lower cost crude palm stearin and palm-based products with high FFA content, which enables us to reduce our feedstock costs. The price of our biodiesel is generally indexed to the local price of petroleum diesel, which floats with changes in the price determined by the international markets.

We have in the past, and we may in the future, use forward purchase contracts and other hedging strategies. However, the extent to which we engage in these risk management strategies may vary substantially from time to time depending on market conditions and other factors.

Research and Development

Our research and development efforts consist of developing, evaluating, and commercializing technologies and expanding the production of SAF, renewable diesel fuel, and other renewable bio-chemicals in the United States and India. The objective of this development activity is to bring efficient conversion technologies using waste feedstocks to produce biofuels and biochemicals on a large-scale, commercial basis. Some of our innovations are protected by issued or pending patents. We are developing additional technology and expect to file additional patents that will further strengthen our intellectual property portfolio. We expect to continue to file and protect patents related to our business and future plans.

Patents and Trademarks

We filed a number of trademark applications within the U.S. We do not consider the success of our business, as a whole, to be dependent on these trademarks. In addition, we hold nine awarded patents in the United States. Our patents cover processes to break down plant biomass and a technology to convert carbon chain chemical structures. We intend to develop, maintain and secure further intellectual property rights and pursue new patents to expand upon our current patent base.

We have acquired exclusive rights to patented technology in support of the development and commercialization of our products, and we also rely on trade secrets and proprietary technology in developing potential products. We continue to place significant emphasis on securing global intellectual property rights and we are pursuing new patents to expand upon our strong foundation for commercializing products in development.

We have received, and may receive in the future, claims of infringement of other parties' proprietary rights. See "Item 3. Legal Proceedings". Infringement or other claims could be asserted or prosecuted against us in the future, which could harm our business. Any such claims, with or without merit, could be time-consuming, result in costly litigation and diversion of technical and management personnel, cause delays in the development of our products, or require us to develop non-infringing technology or enter into royalty or licensing arrangements. Such royalty or licensing arrangements, if required, may require us to license back our technology or may not be available on terms acceptable to us, or at all.

In 2018, in cooperation with a federally funded agency, we secured a grant from the California Energy Commission to optimize and demonstrate the effectiveness of ionic liquids technologies for breaking down biomass to produce SAF and renewable diesel fuel. After completion of technology development and pilot testing, this technology may be applied to the Carbon Zero production plants to commercialize this technology by converting the below zero carbon feedstocks such as waste wood and agricultural waste and renewable energy such as solar, RNG, biogas into energy dense liquid renewable fuels. A patent was awarded for this technology for the production of below zero carbon renewable fuel.

In January 2021, a U.S. patent was awarded for our exclusively licensed technology for the production of below zero carbon renewable fuel. This license enabled us to launch the "Carbon Zero" production plants that are designed to convert below zero carbon feedstocks such as waste wood and agricultural waste and renewable energy such as solar, RNG, and biogas into energy dense liquid renewable fuels. These renewable fuels can be utilized in hybrid electric cars or other electric engines which may create a below zero carbon greenhouse gas footprint across the entire life cycle of the fuel based on the Argonne National Laboratory's GREET model, the leading lifecycle analysis measurement tool.

Environmental and Regulatory Matters

California Ethanol and California Dairy Renewable Natural Gas – The final volumes requirements are set forth below and represent continued growth over historic levels. The final percentage standards meet or exceed the volume targets specified by Congress for total renewable fuel, biomass-based diesel and advanced biofuel. On June 3, 2022, the EPA finalized Renewable Fuel Volume Requirements for calendar years 2020, 2021, and 2022. On December 1, 2022, the EPA proposed Renewable Fuel volume standards for 2023, 2024 and 2025.

	Renewable Fuel Volume Requirements for 2019-2023						
Year	**2019**	**2020**	**2021**	**2022**	**2023***	**2024***	**2025***
Cellulosic biofuel (million gallons)	418	510	620	770	720	1,420	2,130
Biomass-based diesel (billion gallons)	2.10	2.43	2.43	2.76	2.82	2.89	2.95
Advanced biofuel (billion gallons)	4.92	4.63	5.20	5.77	5.82	6.62	7.43
Renewable fuel (billion gallons)	19.92	17.13	18.52	20.77	20.82	21.87	22.68

Source: Environmental Protection Agency
*Proposed volume requirements

We are subject to federal, state and local environmental laws, regulations and permit conditions, including those relating to the discharge of materials into the air, water and ground, the generation, storage, handling, use, transportation and disposal of hazardous materials, and the health and safety of our employees. These laws, regulations and permits may, from time to time, require us to incur significant capital costs. These include, but are not limited to, testing and monitoring plant emissions, and where necessary, obtaining and maintaining mitigation processes to comply with regulations. They may also require us to make operational changes to limit actual or potential impacts to the environment. A significant violation of these laws, regulations, permits or license conditions could result in substantial fines, criminal sanctions, permit revocations and/or facility shutdowns. In addition, environmental laws and regulations change over time, and any such changes, more vigorous enforcement policies or the discovery of currently unknown conditions may require substantial additional environmental expenditures.

We are also subject to potential liability for the investigation and cleanup of environmental contamination at each of the properties that we own or operate and at off-site locations where we arrange for the disposal of hazardous wastes. If significant contamination is identified at our properties in the future, costs to investigate and remediate this contamination as well as costs to investigate or remediate associated damage could be significant. If any of these sites are subject to investigation and/or remediation requirements, we may be responsible under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (“CERCLA”) or other environmental laws for all or part of the costs of such investigation and/or remediation, and for damage to natural resources. We may also be subject to related claims by private parties alleging property damage or personal injury due to exposure to hazardous or other materials at or from such properties. While costs to address contamination or related third-party claims could be significant, based upon currently available information, we are not aware of any such material contamination or third-party claims. Based on our current assessment of the environmental and regulatory risks, we have not accrued any-amounts for environmental matters as of December 31, 2022 and 2021. The ultimate costs of any liabilities that may be identified or the discovery of additional contaminants could materially adversely impact our results of operation or financial condition.

In addition, the production and transportation of our products may result in spills or releases of hazardous substances, which could result in claims from governmental authorities or third parties relating to actual or alleged personal injury, property damage, or damage to natural resources. We maintain insurance coverage against some, but not all, potential losses caused by our operations. Our general and umbrella liability policy coverage includes, but is not limited to, physical damage to assets, employer’s liability, comprehensive general liability, automobile liability and workers’ compensation. We do not carry environmental insurance. We believe that our insurance is adequate for our industry, but losses could occur for uninsurable or uninsured risks or in amounts in excess of existing insurance coverage. The occurrence of events which result in significant personal injury or damage to our property, natural resources or third parties that is not covered by insurance could have a material adverse impact on our results of operations and financial condition.

Our air emissions are subject to the federal Clean Air Act, and similar state laws, which generally require us to obtain and maintain air emission permits for our ongoing operations as well as for any expansion of existing facilities or any new facilities. Obtaining and maintaining those permits requires us to incur costs, and any future more stringent standards may result in increased costs and may limit or interfere with our operating flexibility. These costs could have a material adverse effect on our financial condition and results of operations. Because other ethanol manufacturers in the U.S. are and will continue to be subject to similar laws and restrictions, we do not currently believe that our costs to comply with current or future environmental laws and regulations will adversely affect our competitive position with other U.S. ethanol producers. However, because ethanol is produced and traded internationally, these costs could adversely affect us in our efforts to compete with foreign producers who are not subject to such stringent requirements.

New laws or regulations relating to the production, disposal or emission of carbon dioxide and other greenhouse gases may require us to incur significant additional costs with respect to ethanol plants that we build or acquire. We currently conduct our North American commercial activities exclusively in California. Climate change and reduction legislation is a topic of consideration by the U.S. Congress and California State Legislature, which may significantly impact the biofuels industry's emissions regulations, as will the RFS, California's LCFS, and other potentially significant changes in existing transportation fuels regulations.

India Biodiesel - We are subject to national, state and local environmental laws, regulations and permits, including with respect to the generation, storage, handling, use, transportation and disposal of hazardous materials, and the health and safety of our employees. These laws may require us to make operational changes to limit actual or potential impacts to the environment. A violation of these laws, regulations or permits can result in substantial fines, natural resource damages, criminal sanctions, permit revocations and/or facility shutdowns. In addition, environmental laws and regulations (and interpretations thereof) change over time, and any such changes, more vigorous enforcement policies or the discovery of currently unknown conditions may require substantial additional environmental expenditures.

Employees

At December 31, 2022, we had a total of 168 employees, comprised of 17 full-time employees in our corporate offices, 39 full-time equivalent employees at the Keyes Plant, 11 full-time and 1 part-time Aemetis Biogas employees, 3 full-time employees at the Riverbank site, and 97 full-time equivalent employees in India.

We believe that our employees are highly skilled, and our success will depend in part upon our ability to retain our employees and attract new qualified employees, many of whom are in great demand. We have never had a work stoppage or strike, and no employees are presently represented by a labor union or covered by a collective bargaining agreement. We believe relations with our employees are positive.

Available Information

We file reports with the Securities and Exchange Commission ("SEC"). We make available on our website under "Investor" free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports as soon as reasonably practicable after we electronically file such materials with or furnish them to the SEC. Our website address is www.aemetis.com. Our website address is provided as an inactive textual reference only, and the contents of that website are not incorporated in or otherwise to be regarded as part of this report. You can also read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may also obtain additional information about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including us.

Item 1A. Risk Factors

We operate in an evolving industry that presents numerous risks beyond our control that are driven by factors that cannot be predicted. Should any of the risks described in this section or in the documents incorporated by reference in this report actually occur, our business, results of operations, financial condition, or stock price could be materially and adversely affected. Investors should carefully consider the risk factors discussed below, in addition to the other information in this report, before making any investment in our securities.

Risks Related to our Overall Business

We are currently not profitable and historically, we have incurred significant losses. If we incur continued losses, we may have to curtail our operations, which may prevent us from successfully operating and expanding our business.

Historically, we have relied upon cash from debt and equity financing activities to fund substantially all of the cash requirements of our activities. As of December 31, 2022, we had an accumulated deficit of approximately $429.0 million. For our fiscal years ended December 31, 2022 and 2021, we reported a net loss of $107.8 million, and $47.1 million respectively. We may incur losses for an indeterminate period of time and may not achieve consistent profitability. We expect to rely on cash on hand, cash, if any, generated from our operations, borrowing availability, if any, under our lines of credit and proceeds from future financing activities, if any, to fund all of the cash requirements of our business. In some market environments, we may have limited access to incremental financing, which could defer or cancel growth projects, reduce business activity or cause us to default on our existing debt agreements if we are unable to meet our payment schedules. An extended period of losses or negative cash flow may prevent us from successfully operating and expanding our business.

Our indebtedness, preference payments, and interest expense could limit cash flow and adversely affect operations and our ability to make full payment on outstanding debt.

For the year ended December 31, 2022, we recognized $21.4 million in interest rate expense and $9.9 million in accretion of Series A preferred units (excludes debt related fees and amortization expense).

- Any cash flows after covering the operations if any, equity raises if any, and any EB-5 funding are used to pay principal and interest on debt, thereby reducing the funds available for working capital, capital expenditures, acquisitions, research and development and other general corporate purposes;
- Any Biogas cash flows are used to pay mandatory redemptions under the Credit Facility by reducing the funds available to use by us for operations.
- Insufficient cash flows from operations may force us to sell assets, or seek additional capital, which we may not be able to accomplish on favorable terms, if at all; and
- The level of indebtedness may make us more vulnerable to economic or industry downturns.

Our business is dependent on external financing and cash from operations to service debt and provide future growth.

The adoption of new technologies at our ethanol and biodiesel plants, the development of the Riverbank Carbon Zero Facility and bio-methane digesters at local dairies near our Keyes Plant, and our working capital requirements are financed in part through debt or debt-like facilities. We may need to seek significant additional financing to continue or grow our operations and to develop our business. However, generally unfavorable credit market conditions may make it difficult to obtain necessary capital or additional debt financing on commercially viable terms or at all. If we are unable to pay our debt, we may be forced to delay or cancel capital expenditures, sell assets, restructure our indebtedness, seek additional financing, or file for bankruptcy protection. Debt levels or debt service requirements may limit our ability to borrow additional capital, make us vulnerable to increases in prevailing interest rates, subject our assets to liens, limit our ability to adjust to changing market conditions, or place us at a competitive disadvantage to our competitors. Should we be unable to generate enough cash from our operations or secure additional financing to fund our operations and debt service requirements, we may be required to postpone or cancel growth projects, reduce our operations, or may be unable to meet our debt repayment schedules. Any one of these events would likely have a material adverse effect on our operations and financial position.

There can be no assurance that our existing cash flow from operations will be sufficient to sustain operations and to the extent that we are dependent on credit facilities to fund operations or service debt, there can be no assurances that we will be successful at securing funding from our senior lender or significant shareholders. Should we require additional financing, there can be no assurances that the additional financing will be available on terms satisfactory to us. Our ability to identify and enter into commercial arrangements with feedstock suppliers in India depends on maintaining our operations agreement with Gemini Edibles and Fats India Private Limited (“Gemini”) and Secunderabad Oils Limited (“SOL”). If we are unable to maintain this strategic relationship, our business may be negatively affected. In addition, the ability of Gemini and SOL to continue to provide us with working capital depends in part on the financial strength of them and their banking relationships. If Gemini and SOL are unable or unwilling to continue to provide us with working capital, our business may be negatively affected. Our ability to enter into commercial arrangements with feedstock suppliers in California depends on maintaining our operations agreement with J.D. Heiskell, who is currently providing us with working capital for our Keyes Plant. If we are unable to maintain this strategic relationship, our business may be negatively affected. In addition, the ability of J.D. Heiskell to continue to provide us with working capital depends in part on the financial strength of J.D. Heiskell and its banking relationships. If J.D. Heiskell is unable or unwilling to continue to provide us with working capital, our business may be negatively affected. Our consolidated financial statements do not include any adjustments to the classification or carrying values of our assets or liabilities that might be necessary as a result of the outcome of this uncertainty.

We may be unable to repay or refinance our Third Eye Capital Notes upon maturity.

Under our note facilities with Third Eye Capital, we owe approximately $161.5 million, excluding debt discounts, as of December 31, 2022. Our indebtedness and interest payments under these note facilities are currently substantial and may adversely affect our cash flow, cash position and stock price. The current maturity date of these notes is April 2024 if we choose to exercise our extension option. We have been able to extend our indebtedness in the past, but we may not be able to continue to extend the maturity of these notes. We may not have sufficient cash available at the time of maturity to repay this indebtedness. We have default covenants that may accelerate the maturities of these notes. We may not have sufficient assets or cash flow available to support refinancing these notes at market rates or on terms that are satisfactory to us. If we are unable to extend the maturity of the notes or refinance on terms satisfactory to us, we may be forced to refinance on terms that are materially less favorable, seek funds through other means such as a sale of some of our assets or otherwise significantly alter our operating plan, any of which could have a material adverse effect on our business, financial condition and results of operations. Additionally, if we are unable to amend our current note purchase agreement with Third Eye Capital, our ability to pay dividends could be restrained.

We are dependent upon our working capital agreements with J.D. Heiskell, Gemini Edibles and Fats India Private Limited and Secunderabad Oils Limited.

Our ability to operate our Keyes Plant depends on maintaining our working capital agreement with J.D. Heiskell, our marketing agreement with Murex and our ability to operate the Kakinada Plant depends on maintaining our working capital agreements with Gemini and SOL. The Heiskell Agreement provides for an initial term of one year with automatic one-year renewals; provided, however, that J.D. Heiskell may terminate the agreement by notice 30 days prior to the end of the initial term or any renewal term. The current term extends through December 31, 2023. In addition, the agreement may be terminated at any time upon an event of default, such as payment default, bankruptcy, acts of fraud or material breach under one of our related agreements with J.D. Heiskell. The Gemini and SOL agreement may be terminated at any time by either party upon written notice. If we are unable to maintain these strategic relationships, we will be required to locate alternative sources of working capital and corn or milo supply, which we may be unable to do in a timely manner or at all. If we are unable to maintain our current working capital arrangements or locate alternative sources of working capital, our ability to operate our plants will be negatively affected.

Our results from operations are primarily dependent on the spread between the feedstock and energy we purchase and the fuel, animal feed and other products we sell.

The results of our ethanol production business in the U.S. are significantly affected by the spread between the cost of the corn and natural gas that we purchase and the price of the ethanol, WDG and DCO that we sell. Similarly, in India our biodiesel business is primarily dependent on the price difference between the costs of the feedstock we purchase (principally NRPO and crude glycerin) and the products we sell (principally distilled biodiesel and refined glycerin). The markets for ethanol, biodiesel, WDG, DCO and glycerin are highly volatile and subject to significant fluctuations. Any decrease in the spread between prices of the commodities we buy and sell, whether as a result of an increase in feedstock prices or a reduction in ethanol or biodiesel prices, would adversely affect our financial performance and cash flow and may cause us to suspend production at either of our plants.

As of December 31, 2021 we became an "accelerated filer" and are therefore subject to the auditor attestation requirement in the assessment of our internal control over financial reporting.

Because the worldwide market value of our common stock held by non-affiliates exceeded $75 million (but was less than $700 million), as of the last business day of our fiscal quarter ended June 30, 2022, we are an "accelerated filer" as defined by SEC rule. Therefore, we are now subject to the requirement that we include in this Annual Report on Form 10-K for the fiscal year ending December 31, 2022, the auditor's attestation report on assessment of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. If we do not have a sufficient history for us and our independent registered public accounting firm to test and evaluate our new processes and controls, we may be unable to obtain an unqualified attestation report from our independent registered public accounting firm required under Section 404 of the Sarbanes-Oxley Act. If our independent registered public accounting firm is not able to render an unqualified attestation, it could result in lost investor confidence in the accuracy, reliability, and completeness of our financial reports. We expect that our status as an accelerated filer and compliance with these increased requirements will require management to expend additional time while also condensing the time frame available to comply with certain requirements, which may further increase our legal and financial compliance costs.

The price of ethanol is volatile and subject to large fluctuations, and increased ethanol production may cause a decline in ethanol prices or prevent ethanol prices from rising, either of which could adversely impact our results of operations, cash flows and financial condition.

The market price of ethanol is volatile and subject to large fluctuations. The market price of ethanol is dependent upon many factors, including the supply of ethanol and the demand for gasoline, which is in turn dependent upon the price of petroleum, which is also highly volatile and difficult to forecast. Fluctuations in the market price of ethanol may cause our profitability or losses to fluctuate significantly. In addition, domestic ethanol production capacity increased significantly in the last decade. Demand for ethanol may not increase commensurately with increases in supply, which could lead to lower ethanol prices. Demand for ethanol could be impaired due to a number of factors, including regulatory developments and reduced gasoline consumption. Reduced gasoline consumption has occurred in the past and could occur in the future as a result of increased gasoline or oil prices.

Decreasing gasoline prices may negatively impact the selling price of ethanol which could reduce our ability to operate profitably.

The price of ethanol tends to change in relation to the price of gasoline. If the price of gasoline decreases in the future, in correlation to the decrease in the price of gasoline, the price of ethanol may decrease. Decreases in the price of ethanol reduce our revenue. Our profitability depends on a favorable spread between our corn and natural gas costs and the price we receive for our ethanol. If ethanol prices fall during times when corn and/or natural gas prices are high, we may not be able to operate profitably.

We may be unable to execute our business plan.

The value of our long-lived assets is based on our ability to execute our business plan and generate sufficient cash flow to justify the carrying value of our assets. Should we fall short of our cash flow projections, we may be required to write down the value of these assets under accounting rules and further reduce the value of our assets. We can make no assurances that future cash flows will develop and provide us with sufficient cash to maintain the value of these assets, thus avoiding future impairment to our asset carrying values. As a result, we may need to write down the carrying value of our long-lived assets.

In addition, we intend to modify or adapt third party technologies at the Keyes Plant and at the Kakinada Plant to accommodate alternative feedstocks and improve operations. After we design and engineer a specific integrated upgrade to either or both plants to allow us to produce products other than their existing products, we may not receive permission from the regulatory agencies to install the process at one or both plants. Additionally, even if we are able to install and begin operations of an integrated advanced fuels and/or bio-chemical plant, we cannot assure you that the technology will work and produce cost effective products because we have never designed, engineered nor built this technology into an existing bio-refinery. Similarly, our plans to develop the Riverbank Carbon Zero Facility, construct a bio-methane digester, pipeline and gas cleanup system near our Keyes plan, the integrated microgrid, the MVR project, or the Mitsubishi dehydration system at the Keyes Plant may not be successful as a result of financing, issues in the design or construction process, or our ability to sell liquid CO_2 at cost effective prices or achieve the anticipated energy savings. Any inability to execute our business plan may have a material adverse effect on our operations, financial position, ability to pay dividends, and ability to continue as a going concern.

We may not be able to recover the costs of our substantial investments in capital improvements and additions, and the actual cost of such improvements and additions may be significantly higher than we anticipate.

Our strategy calls for continued investment in capital improvements and additions. For example, we are currently developing “Carbon Zero” biofuels production plants designed to produce biofuels, including renewable jet and renewable diesel fuel utilizing hydrogen and non-edible renewable oils. We are also building carbon capture sequestration wells to generate low-carbon fuel standard credits by injecting CO_2 into sequestration wells that are monitored for emissions to ensure the long-term sequestration of carbon underground, developing the Carbon Zero Facility in Riverbank, CA to utilize the licensed Technologies to convert local California surplus biomass into ultra-low carbon renewable ethanol. We are also constructing a network of biogas digesters, pipelines and gas cleanup systems near our Keyes Plant to convert dairy waste gas into renewable bio-methane and evaluating the Goodland facility in Goodland, KS for construction of an additional ethanol facility. The construction of these capital improvements and additions involves numerous regulatory, environmental, political and legal uncertainties, many of which are beyond our control and may require the expenditure of significant amounts of capital, which may exceed our estimates and we may require significant debt or equity financing. These projects may not be completed at the planned cost, on schedule or at all due to unavailability of needed financing. The construction of new ethanol and other biofuel facilities is subject to construction cost overruns due to labor costs, costs of equipment and materials such as steel, labor shortages or weather or other delays, inflation or other factors, which could be material. In addition, the construction of these facilities is typically subject to the receipt of approvals and permits from various regulatory agencies. Those agencies may not approve the projects in a timely manner, if at all, or may impose restrictions or conditions on the projects that could potentially prevent a project from proceeding, lengthen its expected completion schedule and/or increase its anticipated cost. Moreover, our revenues and cash flows may not increase immediately upon the expenditure of funds on a particular project. For instance, if we expand an existing facility or construct a new facility, the construction may occur over an extended period of time, and we may not receive any material increases in revenues or cash flows until the project is completed. As a result, the new facilities may not be able to achieve our expected investment return, which could adversely affect our results of operations.

We are dependent on, and vulnerable to any difficulties of, our principal suppliers and customers.

We buy all of the feedstock for the Keyes Plant from one supplier, J.D. Heiskell. Under the Heiskell Supply Agreement, we are only permitted to purchase feedstock from other suppliers upon the satisfaction of certain conditions. In addition, we have contracted to sell all of the WDG, CDS, and corn oil we produce at the Keyes Plant to J.D. Heiskell. J.D. Heiskell, in turn, sells all WDG and syrup produced to A.L. Gilbert. We sell the majority of our fuel ethanol production to one customer, Murex, through individual sales transactions. If J.D. Heiskell were to fail to deliver adequate feedstock to the Keyes Plant or fail to purchase all the contracted product we produce, if Murex were to fail to purchase the majority of the ethanol we produce, if A.L. Gilbert were to fail to purchase all of the WDG and syrup we produce, or if any of them were otherwise to default on our agreements with them or fail to perform as expected, we may be unable to find replacement suppliers or purchasers, or both, in a reasonable time or on favorable terms, any of which could materially adversely affect our results of operations and financial condition.

We may not receive the funds we expect under our EB-5 program.

Our EB-5 Phase I program allows for the issuance of up to 72 subordinated convertible promissory notes, each in the amount of $0.5 million due and payable four years from the date of the note for a total aggregate principal amount of up to $36.0 million. As of December 31, 2022, $35.5 million have been raised through the EB-5 program and have been released from escrow and $0.5 million remain to be funded to escrow. Additionally, the USCIS could deny approval of the loans, and then we would not receive some or all of the subscribed funds. If the USCIS takes longer to approve the release of funds in escrow, or does not approve the loans at all, it would have a material adverse effect on our cash flows available for operations, and thus could have a material adverse effect on our results of operations. As of December 31, 2022, $37.2 million of principal and unpaid interest was outstanding on the EB-5 Notes under the EB-5 Phase I funding.

On October 16, 2016, we launched our EB-5 Phase II program, allowing for the issuance of up to 100 subordinated convertible promissory notes, on substantially similar terms and conditions as those issued under our EB-5 Phase I program, for a total aggregate principal amount of up to $50.8 million. On November 21, 2019, the minimum investment was raised from $500,000 per investor to $900,000 per investor. As of December 31, 2022, $4.0 million have been raised through the EB-5 Phase II program and have been released from escrow and $4.2 million of principal and unpaid interest was outstanding on the EB-5 Notes under the EB-5 Phase II funding.

There can be no assurance that we will be able to successfully raise additional funds under our EB-5 Phase II program or that such funds, if raised, will be approved by USCIS. If we are unable to raise, receive approval for, or receive any funds under our EB-5 Phase II program, our business may be negatively affected.

We face competition for our bio-chemical and transportation fuels products from providers of petroleum-based products and from other companies seeking to provide alternatives to these products, many of whom have greater resources and experience than we do, and if we cannot compete effectively against these companies, we may not be successful.

Our renewable products compete with both the traditional, largely petroleum-based bio-chemical and fuels products that are currently being used in our target markets and with the alternatives to these existing products that established enterprises and new companies are seeking to produce. The oil companies, large chemical companies and well-established agricultural products companies with whom we compete are much larger than we are, and have, in many cases, well developed distribution systems and networks for their products.

In the transportation fuels market, we compete with independent and integrated oil refiners, advanced biofuels companies, traditional biofuel companies and biodiesel companies. Refiners compete with us by selling traditional fuel products and some are also pursuing hydrocarbon fuel production using non-renewable feedstocks, such as natural gas and coal, as well as processes using renewable feedstocks, such as vegetable oil and biomass. We also expect to compete with companies that are developing the capacity to produce diesel and other transportation fuels from renewable resources in other ways.

With the emergence of many new companies seeking to produce chemicals and fuels from alternative sources, we may face increasing competition from alternative fuels and chemicals companies. As they emerge, some of these companies may be able to establish production capacity and commercial partnerships to compete with us. If we are unable to establish production and sales channels that allow us to offer comparable products at attractive prices, we may not be able to compete effectively with these companies.

We also face competition from international suppliers. Ethanol can be imported into the United States duty-free from some countries, which may undermine the domestic ethanol industry. Currently, international suppliers produce ethanol primarily from sugar cane and as such, production costs for ethanol in these countries can be significantly less than those in the United States and the import of lower price or lower carbon value ethanol from these countries may reduce the demand for domestic ethanol and depress the price at which we sell our ethanol.

The high concentration of our sales within the ethanol production industry could result in a significant reduction in sales and negatively affect our profitability if demand for ethanol declines.

We expect our U.S. operations to be substantially focused on the production of ethanol and its co-products for the near future until the biogas, SAF/Renewable Diesel and Carbon Capture projects are developed. We may be unable to shift our business focus away from the production of ethanol to other renewable fuels or competing products quickly. Accordingly, an industry shift away from ethanol or the emergence of new competing products may reduce the demand for ethanol, which could materially and adversely affect our sales and profitability.

Our operations are subject to environmental, health, and safety laws, regulations, and liabilities.

Our operations are subject to various federal, state and local environmental laws, and regulations, including those relating to the discharge of materials into the air, water and ground, the generation, storage, handling, use, transportation and disposal of hazardous materials, access to and impacts on water supply, and the health and safety of our employees. In addition, our operations and sales in India subject us to risks associated with foreign laws, policies and regulations. Some of these laws and regulations require our facilities to operate under permits or licenses that are subject to renewal or modification. These laws, regulations and permits can require expensive emissions testing and pollution control equipment or operational changes to limit actual or potential impacts to the environment. Violations of these laws, regulations or permit, or license conditions can result in substantial fines, natural resource damages, criminal sanctions, permit revocations and facility shutdowns. We may not be at all times in compliance with these laws, regulations, permits or licenses or we may not have all permits or licenses required to operate our business. We may be subject to legal actions brought by environmental advocacy groups and other parties for actual or alleged violations of environmental laws, permits or licenses. As we enter into new markets such as USP alcohol and hand sanitizer, we may be subject to several regulations and health and safety laws by TTB and Food and Drug Administration ('FDA"). Failure to comply with these health and safety laws, our license to sell these products may be revoked and we may be subject to certain penalties. In addition, we may be required to make significant capital expenditures on an ongoing basis to comply with increasingly stringent environmental laws, regulations, and permit and license requirements.

We may be liable for the investigation and cleanup of environmental contamination at our facilities and at off-site locations where we arrange for the disposal of hazardous substances. If hazardous substances have been or are disposed of or released at sites that undergo investigation or remediation by regulatory agencies, we may be responsible under CERCLA or other environmental laws for all or part of the costs of investigation and remediation, and for damage to natural resources. We also may be subject to related claims by private parties alleging property damage and personal injury due to exposure to hazardous or other materials at or from those properties. Some of these matters may require us to expend significant amounts for investigation, cleanup or other costs.

New laws, new interpretations of existing laws, increased governmental enforcement of environmental laws or other developments could require us to make additional significant expenditures. Continued government and public emphasis on environmental issues can be expected to result in increased future investments for environmental controls at our production facilities. Environmental laws and regulations applicable to our operations now or in the future, more vigorous enforcement policies and discovery of currently unknown conditions may require substantial expenditures that could have a negative impact on our results of operations and financial condition.

Our business is affected by greenhouse gas and climate change regulation.

Emissions of carbon dioxide resulting from manufacturing ethanol are subject to permit requirements. Climate change continues to attract considerable attention globally. Numerous proposals have been made and could continue to be made at the international, federal, state and local levels to monitor and limit existing emissions of GHG, including carbon dioxide, as well as to restrict or eliminate future emissions. At this stage, it is not possible to accurately estimate either a timetable for implementation of any future regulations or our future compliance costs relating to implementation. Under the 2015 Paris Agreement, parties to the United Nations Framework Convention on Climate Change agreed to undertake ambitious efforts to reduce GHG emissions and strengthen adaptation to the effects of climate change. In February 2021, the U.S. recommitted to the Agreement after having withdrawn in August 2017.

In the U.S., the EPA promulgated federal GHG regulations under the Clean Air Act affecting certain sources. The EPA issued mandatory GHG reporting requirements, requirements to obtain GHG permits for certain industrial plants and GHG performance standards for some facilities. Although the EPA recently scaled back certain GHG requirements, addressing climate change is a stated priority of President Biden and as such additional regulations and legislation are likely to be forthcoming at the U.S. federal or state level that could result in increased operating costs for compliance, or required acquisition or trading of emission allowances. Additionally, demand for the products we produce may be reduced.

If new laws or regulations are passed relating to the production, disposal or emissions of carbon dioxide, we may be required to incur significant costs to comply with such new laws or regulations. Compliance with future legislation may require us to take action unknown to us at this time that could be costly, and require the use of working capital, which may or may not be available, preventing us from operating as planned, which may have a material adverse effect on our operations and cash flow.

The operations at our Keyes Plant will result in the emission of CO_2 into the atmosphere. In March 2010, the EPA released its final regulations on the RFS. We believe the EPA's final RFS regulations grandfather the Keyes Plant emission levels at its current capacity.

A change in government policies may cause a decline in the demand for our products.

The domestic ethanol industry is highly dependent upon a myriad of federal and state regulations and legislation, and any changes in legislation or regulation could adversely affect our results of operations and financial position. Other federal and state programs benefiting ethanol generally are subject to U.S. government obligations under international trade agreements, including those under the World Trade Organization Agreement on Subsidies and Countervailing Measures, and may be the subject of challenges, in whole or in part. Growth and demand for ethanol and biodiesel is largely driven by federal and state government mandates or blending requirements, such as the RFS, which was implemented pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 (the "EISA"). The RFS program sets annual quotas for the quantity of renewable fuels (such as ethanol) that must be blended into motor fuels consumed in the United States. However, legislation aimed at reducing or eliminating the renewable fuel use required by the RFS has been introduced in the United States Congress. Any change in government policies could have a material adverse effect on our business and the results of our operations.

Waivers of the RFS minimum levels of renewable fuels included in gasoline or of the requirements by obligate parties to comply with the regulations could have a material adverse effect on our results of operations. Under the Energy Policy Act, the U.S. Department of Energy, in consultation with the Secretary of Agriculture and the Secretary of Energy, may waive the renewable fuels mandate with respect to one or more states if the Administrator of the EPA determines that implementing the requirements would severely harm the economy or the environment of a state, a region or the nation, or that there is inadequate supply to meet the requirement. Additionally, the EPA has exercised the authority to waive the requirements of the RFS for certain small refiners. Any waiver of the RFS with respect to one or more states would reduce demand for ethanol and could cause our results of operations to decline and our financial condition to suffer. Further activity by the EPA to waive the requirements for small refiners could cause softening of pricing in the industry and cause our results of operations to similarly decline.

A critical state program is California's LCFS, which is designed to reduce greenhouse gas emissions associated with transportation fuels used in California by ensuring that the fuel sold meets declining targets for such emissions. The regulation quantifies lifecycle greenhouse gas emissions by assigning a CI score to each transportation fuel based on that fuel's lifecycle assessment. Each petroleum fuel provider, generally the fuel's producer or importer (the "Regulated Party"), is required to ensure that the overall CI score for its fuel pool meets the annual carbon intensity target for a given year. A Regulated Party's fuel pool can include gasoline, diesel, and their blend stocks and substitutes. This obligation is tracked through credits and deficits. Fuels with a CI score lower than the annual standard earn a credit, and fuels that are higher than the standard result in a deficit. Credits can be traded. Any changes to California's LCFS could cause our results of operations, particularly in ethanol and biogas, to decline and cause our financial condition to suffer.

Concerns regarding the environmental impact of biofuel production could affect public policy which could impair our ability to operate at a profit and substantially harm our revenues and operating margins.

Under the EISA, the EPA is required to produce a study every three years of the environmental impacts associated with current and future biofuel production and use, including effects on air and water quality, soil quality and conservation, water availability, energy recovery from secondary materials, ecosystem health and biodiversity, invasive species and international impacts. Should such EPA triennial studies, or other analyses find that biofuel production and use has resulted in, or could in the future result in, adverse environmental impacts, such findings could also negatively impact public perception and acceptance of biofuel as an alternative fuel, which also could result in the loss of political support. To the extent that state or federal laws are modified or public perception turns against biofuels, use requirements such as RFS and LCFS may not continue, which could materially harm our ability to operate profitably.

We may encounter unanticipated difficulties in converting the Keyes Plant to accommodate alternative feedstocks, new chemicals used in the fermentation and distillation process or new mechanical production equipment.

In order to improve the operations of the Keyes Plant and execute on our business plan, we intend to modify the Keyes Plant to accommodate alternative feedstocks and new chemical and/or mechanical production processes, including an integrated microgrid, an MVR distillation system, the Mitsubishi dehydration system and other technologies. We may not be able to successfully implement these modifications, and they may not function as we expect them to. These modifications may cost significantly more to complete than our estimates. The Keyes Plant may not operate at nameplate capacity once the changes are complete. If any of these risks materialize, they could have a material adverse effect on our results of operations and financial position.

Aemetis has entered into new markets for alcohol, including the sanitizer market and other industrial alcohol segments. These new markets, along with existing transportation/energy markets Aemetis already serves, are highly volatile and have significant risk associated with current market conditions.

We have limited experience in marketing and selling high grade alcohol and hand sanitizer. As such, we may not be able to compete successfully with existing or new competitors in supplying high-grade alcohol to potential customers. We may not be able to reach USP grade alcohol to compete further in the high-grade alcohol and hand sanitizer market. If we are unable to establish production and sales channels that allow us to offer comparable products at attractive prices, we may not be able to compete effectively in the market. Furthermore, there can be no assurance that our high-grade alcohol business will ever generate significant revenues or maintain profitability. The failure to do so could have a material adverse effect on our business and results of operations.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act.

Our operations in countries outside the United States, including our operations in India, are subject to anti-corruption laws and regulations, including restrictions imposed by the U.S. Foreign Corrupt Practices Act (the "FCPA"). The FCPA and similar anti-corruption laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business. We operate in parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-corruption laws may conflict with local customs and practices.

Our employees and agents interact with government officials on our behalf, including interactions necessary to obtain licenses and other regulatory approvals necessary to operate our business. These interactions create a risk that actions may occur that could violate the FCPA or other similar laws.

Although we have policies and procedures designed to promote compliance with local laws and regulations as well as U.S. laws and regulations, including the FCPA, there can be no assurance that all of our employees, consultants, contractors and agents will abide by our policies. If we are found to be liable for violations of the FCPA or similar anti-corruption laws in other jurisdictions, either due to our own acts or out of inadvertence, or due to the acts or inadvertence of others, we could suffer from criminal or civil penalties which could have a material and adverse effect on our results of operations, financial condition and cash flows.

A substantial portion of our assets and operations are located in India, and we are subject to regulatory, economic and political uncertainties in India.

Certain of our principal operating subsidiaries are incorporated in India, and substantial portions of our assets are located in India. We intend to continue to develop and expand our facilities in India. The Indian government has exercised and continues to exercise significant influence over many aspects of the Indian economy. India's government has traditionally maintained an artificially low price for certain commodities, including diesel fuel, through subsidies, but has recently begun to reduce such subsidies, which benefits us. We cannot assure you that liberalization policies will continue. Various factors, such as changes in the current federal government, could trigger significant changes in India's economic liberalization and deregulation policies and disrupt business and economic conditions in India generally and our business in particular. In particular, the Indian government's 2018 National Biofuels Policy stated a plan to increase Biodiesel blending to 5% of the diesel market, equal to more than 1.2 billion gallons per year. We cannot assure you that this policy will continue, nor can we assure you that we will continue to be able to procure biodiesel supply contracts with the Indian state-owned oil marketing companies through the public tender process. Our financial performance may be adversely affected by any such changes or other changes to the general economic conditions and economic and fiscal policy in India, including changes in exchange rates and controls, interest rates and taxation policies, as well as social stability and political, economic or diplomatic developments affecting India in the future.

Currency fluctuations between the Indian rupee and the U.S. dollar could have a material adverse effect on our results of operations.

A substantial portion of our revenues is denominated in Indian rupees. We report our financial results in U.S. dollars. The exchange rates between the Indian rupee and the U.S. dollar have changed substantially in recent years and may fluctuate substantially in the future. We do not currently engage in any formal currency hedging of our foreign currency exposure, and our results of operations may be adversely affected if the Indian rupee fluctuates significantly against the U.S. dollar.

We could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies which could limit our access to cash held in our Indian subsidiary to fund our U.S. operations or otherwise make investments where needed.

Our Indian operations could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies, which would limit our ability to use this cash across our global operations. For instance, cash and cash equivalents were $4.3 million at December 31, 2022, of which $1.6 million was held in our North American entities and $2.7 million was held in our Indian subsidiary. Cash held in our Indian subsidiary may not otherwise be available for servicing debt obligations, potential investment or use for operations in the United States. Moreover, even if we were to repatriate this cash back to the United States for use in U.S. investments, this cash could be subject to additional withholding taxes. Due to various methods by which cash could be repatriated to the United States in the future, the amount of taxes attributable to the cash is dependent on circumstances existing if and when remittance occurs. Due to the various methods by which such earnings could be repatriated in the future, it is not practicable to determine the amount of applicable taxes that would result from such repatriation. In addition, Indian regulations may impose restrictions on the movement and exchange of foreign currencies which could further limit our ability to use such funds for repayment of debt, operations or capital or other strategic investments. Our inability to access our cash where and when needed could impede our ability to service our debt obligations, make investments and support our operations.

We are a holding company and there are significant limitations on our ability to receive distributions from our subsidiaries.

We conduct substantially all of our operations through subsidiaries and are dependent on cash distributions, dividends or other intercompany transfers of funds from our subsidiaries to finance our operations. Our subsidiaries have not made significant distributions to us and may not have funds available for dividends or distributions in the future. The ability of our subsidiaries to transfer funds to us will be dependent upon their respective abilities to achieve sufficient cash flows after satisfying their respective cash requirements, including subsidiary-level debt service on their respective credit agreements. Our current credit agreement, the Third Eye Capital Note Purchase Agreement, as amended from time to time, as described in the Notes to Consolidated Financial Statements, requires us to obtain the prior consent of Third Eye Capital, as the Administrative Agent of the Note holders, to make cash distributions or any intercompany fund transfers. The ability of our Indian operating subsidiary to transfer funds to us is restricted by Indian laws and may be adversely affected by U.S. federal income tax laws. Under Indian laws, our capital contributions, or future capital contributions, to our Indian operation cannot be remitted back to the U.S. Remittance of funds by our Indian subsidiary to us may subject us to significant tax liabilities under U.S. federal income tax laws.

Our Chief Executive Officer has outside business interests that could require time and attention.

Eric McAfee, our Chairman and Chief Executive Officer, has outside business interests which include his ownership of McAfee Capital. Although Mr. McAfee's employment agreement requires that he devote reasonable business efforts to our company and prohibits him from engaging in any competitive employment, occupational and consulting services, this agreement also permits him to devote time to his outside business interests consistent with past practice. As a result, these outside business interests could interfere with Mr. McAfee's ability to devote time to our business and affairs.

Our ability to utilize our NOL carryforwards may be limited.

Under the Internal Revenue Code of 1986, as amended (the "Code"), a corporation is generally allowed a deduction in any taxable year for net operating losses ("NOL") carried over from prior taxable years. As of December 31, 2022, we had U.S. federal NOL carryforwards of approximately $231.0 million and state NOL carryforwards of approximately $300.0 million. As of December 31, 2022, the federal NOL's of $200.0 million and the state NOL's of $300.0 million expire on various dates between 2027 and 2042. Due to the 2017 U.S. Tax Reform, U.S. federal NOLs post 2017 in the amount of $31.0 million have no expiration date.

The Section 163(j) excess interest expense carryover does not expire (similar to NOL's). However, the Section 163j excess interest expense carryover is subject to allowed amounts and the Section 382 change of ownership rules, similar to NOL's and tax credits. The annual computation for how much interest expense allowed includes the prior year interest carry over plus current year interest. The amount allowed is generally 30% (law was modified for 2019 and 2020 to 50% due to COVID) of adjusted taxable income before the interest. Due to the ongoing interest expense every year, our ability may be limited just to continue to carry forward the interest expense to next year.

Our ability to deduct these NOL carryforwards against future taxable income could be limited if we experience an "ownership change," as defined in Section 382 of the Code. In general, an ownership change may result from one or more transactions increasing the aggregate ownership of certain persons (or groups of persons) in our stock by more than 50 percentage points over a testing period (generally three years). Future direct or indirect changes in the ownership of our stock, including sales or acquisitions of our stock by certain stockholders and purchases and issuances of our stock by us, some of which are not in our control, could result in an ownership change. Any resulting limitation on the use of our NOL carryforwards could result in the payment of taxes above the amounts currently estimated and could have a negative effect on our future results of operations and financial position.

Non-U.S. stockholders of our common stock, in certain situations, could be subject to U.S. federal income tax on the gain from the sale, exchange or other disposition of our common stock.

Our Keyes Plant (which constitutes a U.S. real property interest for purposes of determining whether we are a U.S. real property holding corporation (a "USRPHC") under the Foreign Investment in Real Property Tax Act ("FIRPTA")), currently accounts for a significant portion of our assets. The value of our Keyes Plant relative to our real property located outside of the United States and other assets used in our trade or business may be uncertain and may fluctuate over time. Therefore, we may be, now or at any time while a non-U.S. stockholder owns our common stock, a USRPHC. If we are a USRPHC, certain non-U.S. stockholders may be subject to U.S. federal income tax on gain from the disposition of our stock under FIRPTA, in which case such non-U.S. stockholders would also be required to file U.S. federal income tax returns with respect to such gain. Whether the FIRPTA provisions apply depends on the stock that a non-U.S. stockholder owns and whether, at the time such non-U.S. stockholder disposes of our common stock, such common stock is regularly traded on an established securities market within the meaning of the applicable U.S. Treasury regulations. Non-U.S. stockholders should consult with their own tax advisors concerning the U.S. federal income tax consequences of the sale, exchange or other disposition of our common stock.

We are subject to covenants and other operating restrictions under the terms of our debt, which may restrict our ability to engage in some business transactions.

Our debt facilities contain covenants restricting our ability, among others, to:

- incur additional debt;
- make certain capital expenditures;
- incur or permit liens to exist;
- enter into transactions with affiliates;
- guarantee the debt of other entities, including joint ventures;
- pay dividends;
- merge or consolidate or otherwise combine with another company; and
- transfer, sell or lease our assets.

These restrictions may limit our ability to engage in business transactions that may be beneficial to us or may restrict our ability to execute our business plan.

We may be subject to liabilities and losses that may not be covered by insurance.

Our employees and facilities are subject to the hazards associated with producing ethanol and biodiesel. Operating hazards can cause personal injury and loss of life, damage to, or destruction of, property, plant and equipment and environmental damage. We maintain insurance coverage in amounts, against the risks that we believe are consistent with industry practice, and maintain an active safety program. However, we could sustain losses for uninsurable or uninsured risks, or in amounts in excess of existing insurance coverage. Events that result in significant personal injury or damage to our property or to property owned by third parties or other losses that are not fully covered by insurance could have a material adverse effect on our results of operations and financial position.

Insurance liabilities are difficult to assess and quantify due to unknown factors, including the severity of an injury, the determination of our liability in proportion to other parties, the number of incidents not reported and the effectiveness of our safety program. If we were to experience insurance claims or costs above our coverage limits or that are not covered by our insurance, we might be required to use working capital to satisfy these claims rather than to maintain or expand our operations. To the extent that we experience a material increase in the frequency or severity of accidents or workers' compensation claims, or unfavorable developments on existing claims, our operating results and financial condition could be materially and adversely affected.

The widespread outbreak of an illness, pandemic (such as COVID-19) or any other public health crisis may have material adverse effects on our financial position, results of operations or cash flows.

The spread of COVID-19 has caused global business disruptions beginning in January 2020, including disruptions in the energy and natural gas industry. The COVID-19 pandemic has negatively impacted the global economy, disrupted global supply chains, reduced global demand of goods and services, and created significant volatility and disruption of financial and commodity markets. The extent of the impact of the COVID-19 pandemic on our operational and financial performance, including our ability to execute our business strategies and projects in the expected time frame, continues to be uncertain and depends on various factors, including the demand for ethanol, WDG, CDS and DCO, the availability of personnel, equipment and services critical to our ability to operate our properties and the impact of potential governmental restrictions on travel, transports and operations. We continue to monitor federal, state, and local government recommendations and have made modifications to our normal operations as a result of COVID-19. The degree to which the COVID-19 pandemic or any other public health crisis adversely impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, appearance of variants, its severity, the actions to contain the virus or treat its impact, its impact on the economy and market conditions, and how quickly and to what extent normal economic and operating conditions can resume. Therefore, the degree of the adverse financial impact cannot be reasonably estimated at this time.

We have facilities located in California and India, and the employees working in those facilities may be at greater risk for exposure to and for contracting COVID-19. The spread of COVID-19 in these locations may result in our employees being forced to work from home or missing work if they or a member of their family contract COVID-19. Additionally, the spread of COVID-19 may result in economic downturns in the markets in which we sell our products and lead to reduced demand for gasoline in such markets, each of which may impair demand for ethanol, harm our operations and negatively impact our financial condition.

Our mergers, acquisitions, partnerships, and joint ventures may not be as beneficial as we anticipate.

We have increased our operations through mergers, acquisitions, partnerships and joint ventures and intend to continue to explore these opportunities in the future. For example, in December 2020, we announced an investment in Nevo Motors, Inc. pursuant to a Strategic Electric Vehicle Production Facilities Agreement that will utilize our current and future manufacturing facilities and fueling stations, as well as renewable natural gas and electricity produced by us. The anticipated benefits of these transactions might take longer to realize than expected and these may never be fully realized, or even realized at all. Furthermore, partnerships and joint ventures generally involve restrictive covenants on the parties involved, which may limit our ability to manage these agreements in a manner that is in our best interest. Future mergers, acquisitions, partnerships, and joint ventures may involve the issuance of debt or equity, or a combination of the two, as payment for or financing of the business or assets involved, which may dilute ownership interest in our business. Any failure to adequately evaluate and address the risks of and execute on our mergers, acquisitions, partnerships, and joint ventures could have an adverse material effect on our business, results of operations, and financial condition. In connection with such acquisitions and strategic transactions, we may incur unanticipated expenses, fail to realize anticipated benefits, have difficulty incorporating the acquired businesses, our management may become distracted from our core business, and we may disrupt relationships with current and new employees, customers and vendors, incur significant debt, or have to delay or not proceed with announced transactions. The occurrence of any of these events could have an adverse effect on our business.

Our business may be significantly disrupted upon the occurrence of a catastrophic event or cyberattack.

Our Keyes and Kakinada Plants are highly automated and they rely extensively on the availability of our network infrastructure and internal technology systems. The failure of our systems due to a catastrophic event, such as an earthquake, fire, flood, tsunami, weather event, telecommunications failure, power failure, cyberattack or war, could adversely impact our business, results of operations and financial condition. We have developed disaster recovery plans and maintain backup systems in order to reduce the potential impact of a catastrophic event. However, there can be no assurance that these plans and systems would enable us to return to normal business operations.

Our network infrastructure and internal technology systems may also be subject to other risks such as computer viruses, physical or electronic vandalism or other similar disruptions that could cause system interruptions and loss of critical data. Cybersecurity threats and incidents can range from uncoordinated individual attempts to gain unauthorized access to our networks and systems to more sophisticated and targeted measures directed at us or our third-party service providers. Despite the implementation of cybersecurity measures including access controls, data encryption, vulnerability assessments, employee training, continuous monitoring, and maintenance of backup and protective systems, our network infrastructure and internal technology systems may still be vulnerable to cybersecurity threats and other electronic security breaches. While we have taken reasonable efforts to protect ourselves, and to date, we have not experienced any material breaches or material losses related to cyberattacks, we cannot assure that any of our security measures would be sufficient in the future.

Adverse weather conditions, including as a result of climate change, may adversely affect the availability, quality and price of agricultural commodities and agricultural commodity products, as well as our operations and operating results.

Adverse weather conditions have historically caused volatility in the agricultural commodity industry and consequently in our operating results by causing crop failures or significantly reduced harvests, which may affect the supply and pricing of the agricultural commodities that we sell and use in our business and negatively affect the creditworthiness of agricultural producers who do business with us, including corn, feed and dairy producers.

Severe adverse weather conditions, such as hurricanes or severe storms, may also result in extensive property damage, extended business interruption, personal injuries and other loss and damage to us. Our operations also rely on dependable and efficient transportation services. A disruption in transportation services, as a result of weather conditions or otherwise, may also significantly adversely impact our operations.

Additionally, the potential physical impacts of climate change are uncertain and may vary by region. These potential effects could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels that could adversely impact our costs and business operations, the location, costs and competitiveness of global agricultural commodity production and related storage and processing facilities and the supply and demand for agricultural commodities. These effects could be material to our results of operations, liquidity or capital resources.

We may be unable to protect our intellectual property.

We rely on a combination of patents, trademarks, trade name, confidentiality agreements, and other contractual restrictions on disclosure to protect our intellectual property rights. We also enter into confidentiality agreements with our employees, consultants, and corporate partners, and control access to and distribution of our confidential information. These measures may not preclude the disclosure of our confidential or proprietary information. Despite efforts to protect our proprietary rights, unauthorized parties may attempt to copy or otherwise obtain and use our proprietary information. Monitoring unauthorized use of our confidential information is difficult, and we cannot be certain that the steps we have taken to prevent unauthorized use of our confidential information, particularly in foreign countries where the laws may not protect proprietary rights as fully as in the U.S., will be effective.

Companies in our industry aggressively protect and pursue their intellectual property rights. From time to time, we receive notices from competitors and other operating companies, as well as notices from “non-practicing entities,” or NPEs, that claim we have infringed upon, misappropriated or misused other parties’ proprietary rights. Our success and future revenue growth will depend, in part, on our ability to protect our intellectual property. It is possible that competitors or other unauthorized third parties may obtain, copy, use or disclose our technologies and processes, or confidential employee, customer or supplier data. Any of our existing or future patents may be challenged, invalidated or circumvented.

We may not be able to successfully develop and commercialize our technologies, which may require us to curtail or cease our research and development activities.

Since 2007, we have been developing patent-pending enzyme technology to enable the production of ethanol from a combination of starch and cellulose, or from cellulose alone. In July 2011, we acquired Zymetis, Inc., a biochemical research and development firm, with several patents pending and in-process R&D utilizing the Z-microbe™ to produce renewable chemicals and advanced fuels from renewable feedstocks. In December 2018, the Company wrote off \$0.9 million of patents associated with the Z-microbeTM and enzymatic processes to facilitate the degradation of certain plant biomass as the Company no longer plans to commercially develop the technologies itself and to free up resources to pursue other methods. In 2018, in cooperation with a federally funded agency, we secured a grant from the California Energy Commission to optimize and demonstrate the effectiveness of ionic liquids technologies for breaking down biomass to produce ethanol. To date, we have not completed a large-scale commercial prototype of our technology and are uncertain at this time when completion of a commercial scale prototype or commercial scale production will occur. Commercialization risks include economic financial feasibility at commercial scale, availability of funding to complete large-scale commercial plant, ability of ionic liquids to function at commercial scale and market acceptance of product.

Technological advances and changes in production methods in the biomass-based biofuel industry and renewable chemical industry could render our plants obsolete and adversely affect our ability to compete.

It is expected that technological advances in biomass-based biofuel production methods will continue to occur and new technologies for biomass-based diesel production may develop. Advances in the process of converting oils and fats into biodiesel and renewable diesel, including co-processing, could allow our competitors to produce advanced biofuels more efficiently and at a substantially lower cost. New standards or production technologies may require us to make additional capital investments in, or modify, plant operations to meet these standards. If we are unable to adapt or incorporate technological advances into our operations, our production facilities could become less competitive or obsolete. Further, it may be necessary for us to make significant expenditures to acquire any new technology and retrofit our plants in order to incorporate new technologies and remain competitive. In order to execute our strategy to expand into the production of renewable chemicals, additional advanced biofuels, next generation feedstocks and related renewable products, we may need to acquire licenses or other rights to technology from third parties. We can provide no assurance that we will be able to obtain such licenses or rights on favorable terms. If we are unable to obtain, implement or finance new technologies, our production facilities could be less efficient than our competitors, and our ability to sell biomass-based diesel may be harmed, negatively impacting our revenues and profitability.

Disruption in the supply chain could materially adversely affect our business.

We rely on our suppliers for our business, from feedstocks to materials for our infrastructure projects. Future delays or interruptions in the supply chain due to the COVID-19 pandemic or world events, including the Russo-Ukrainian conflict, could expose us to the various risks which would likely significantly increase our costs and/or impact our operations or business plans including:

- we or our suppliers may have excess or inadequate inventory of feedstocks for operation of our plants;
- we may face delays in construction or development of our infrastructure projects;
- we may not be able to timely procure parts or equipment to upgrade, replace, or repair our plants and technology system; and

our suppliers may encounter financial hardships unrelated to our demand, which could inhibit their ability to fulfill our orders and meet our requirements.

Failure to remediate a material weakness in, or inherent limitations associated with, internal accounting controls could result in material misstatements in our financial statements.

Our management has identified a material weakness in our internal control over financial reporting related to our complex business transactions processes. See "Item 9A. Controls and Procedures". A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. As a result, management has concluded that, due to such material weakness, our disclosure controls and procedures were not effective as of December 31, 2022..

Our efforts to improve our internal controls are ongoing; however, there are inherent limitations in all control systems and no evaluation of controls can provide absolute assurance that all deficiencies have been detected. If we are unable to maintain effective internal control over financial reporting, or after having remediated such material weakness, fail to maintain the effectiveness of our internal control over financial reporting or our disclosure controls and procedures, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to regulatory scrutiny, civil or criminal penalties or litigation. Continued or future failure to maintain effective internal control over financial reporting could also result in financial statements that do not accurately reflect our financial condition or results of operations and may also restrict our future access to the capital markets. There can be no assurance that we will not conclude in the future that this material weakness continues to exist or that we will not identify any significant deficiencies or other material weaknesses that will impair our ability to report our financial condition and results of operations accurately or on a timely basis.

Risks related to ownership of our stock

Our stock price is highly volatile, which could result in substantial losses for investors purchasing shares of our common stock and in litigation against us.

The market price of our common stock has fluctuated significantly in the past and may continue to fluctuate significantly in the future. The market price of our common stock may continue to fluctuate in response to one or more of the following factors, many of which are beyond our control:

- fluctuations in the market prices of ethanol and its co-products including WDG and corn oil;
- the cost of key inputs to the production of ethanol, including corn and natural gas;
- the volume and timing of the receipt of orders for ethanol from major customers;
- competitive pricing pressures;
- our ability to produce, sell and deliver ethanol on a cost-effective and timely basis;
- the announcement, introduction and market acceptance of one or more alternatives to ethanol;
- losses resulting from adjustments to the fair values of our outstanding warrants to purchase our common stock;
- changes in market valuations of companies similar to us;
- stock market price and volume fluctuations generally;
- regulatory developments or increased enforcement;
- fluctuations in our quarterly or annual operating results;
- additions or departures of key personnel;
- our inability to obtain financing; and
- our financing activities and future sales of our common stock or other securities.

The price at which you purchase shares of our common stock may not be indicative of the price that will prevail in the trading market. You may be unable to sell your shares of common stock at or above your purchase price, which may result in substantial losses to you and which may include the complete loss of your investment. In the past, securities class action litigation has often been brought against a company following periods of high stock price volatility. We may be the target of similar litigation in the future. Securities litigation could result in substantial costs and divert management's attention and our resources away from our business.

Any of the risks described above could have a material adverse effect on our results of operations or the price of our common stock, or both.

We do not intend to pay dividends.

We have not paid any cash dividends on any of our securities since inception and we do not anticipate paying any cash dividends on any of our securities in the foreseeable future.

Our principal shareholders hold a substantial amount of our common stock.

Eric A. McAfee, our Chief Executive Officer and Chairman of the Board, beneficially owns 7.7% of our outstanding common stock. In addition, the other members of our Board and management, in the aggregate, excluding Mr. McAfee, beneficially own approximately 0.3% of our common stock. As a result, these shareholders, acting together, will be able to influence many matters requiring shareholder approval, including the election of directors and approval of mergers and acquisitions and other significant corporate transactions. See "Security Ownership of Certain Beneficial Owners and Management." The interests of these shareholders may differ from yours and this concentration of ownership enables these shareholders to exercise influence over many matters requiring shareholder approval, may have the effect of delaying, preventing or deterring a change in control, deprive you of an opportunity to receive a premium for your securities as part of a sale of the company and may affect the market price of our securities.

The conversion of convertible securities and the exercise of outstanding options and warrants to purchase our common stock could substantially dilute your investment and reduce the voting power of your shares, impede our ability to obtain additional financing and cause us to incur additional expenses.

Our Series B convertible preferred stock is convertible into our common stock. As of December 31, 2022, there were 1.3 million shares of our Series B convertible Preferred Stock outstanding, convertible into 127 thousand shares of our common stock on a 10 to 1 ratio. Certain of our financing arrangements, such as our EB-5 notes are convertible into shares of our common stock at fixed prices. Additionally, there are outstanding warrants and options to acquire our common stock issued to employees and directors. As of December 31, 2022 there were outstanding warrants and options to purchase 5.0 million shares of our common stock.

Such securities allow their holders an opportunity to profit from a rise in the market price of our common stock such that conversion of the securities will result in dilution of the equity interests of our common stockholders. The terms on which we may obtain additional financing may be adversely affected by the existence and potentially dilutive impact of our outstanding convertible and other promissory notes, Series B convertible preferred stock, options and warrants. In addition, holders of our outstanding promissory notes and certain warrants have registration rights with respect to the common stock underlying those notes and warrants, the registration of which involves substantial expense.

Our certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our certificate of incorporation provides that, with certain limited exceptions, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any stockholder to bring (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of fiduciary duty owed by any director or officer of the Company owed to us or our stockholders, creditors or other constituents, (iii) any action asserting a claim against us or any director or officer of the Company arising pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or our bylaws, or (iv) any action asserting a claim against the Company or any director or officer of the Company governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have received notice of and consented to the foregoing provisions. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find this choice of forum provision inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

Provisions in our certificate of incorporation and bylaws may inhibit a takeover of us, which could limit the price investors might be willing to pay in the future for our common stock and could entrench management.

Our certificate of incorporation and bylaws contain provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. Our board of directors is divided into three classes, each of which will generally serve for a term of three years with only one class of directors being elected in each year. As a result, at a given annual meeting only a minority of the board of directors may be considered for election. Since our "staggered board" may prevent our stockholders from replacing a majority of our board of directors at any given annual meeting, it may entrench management and discourage unsolicited stockholder proposals that may be in the best interests of stockholders. Moreover, our board of directors has the ability to designate the terms of and issue new series of preferred stock, which could be used to dilute the stock ownership of a potential hostile acquirer. Although we have opted out of the anti-takeover provisions under Section 203 of the Delaware General Corporation Law, we have adopted anti-takeover provisions that are substantially similar to such provisions, which could delay or prevent a change of control. Together these provisions may make more difficult the removal of management and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities.

General Risk Factors

Our success depends in part on recruiting and retaining key personnel and, if we fail to do so, it may be more difficult for us to execute our business strategy.

Our success depends on our continued ability to attract, retain and motivate highly qualified management, manufacturing and scientific personnel, in particular our Chairman and Chief Executive Officer, Eric McAfee. We maintain key person insurance on our Mr. McAfee as our Chief Executive Officer for purposes of loan compliance, but do not maintain any key person insurance on our other executives. Competition for qualified personnel in the renewable fuel and bio-chemicals manufacturing fields is intense. Our future success will depend on, among other factors, our ability to retain our current key personnel, and attract and retain qualified future key personnel, particularly executive management. Failure to attract or retain key personnel could have a material adverse effect on our business and results of operations.

Our operations subject us to risks associated with foreign laws, policies, regulations, and markets.

Our sales and manufacturing operations in foreign countries are subject to the laws, policies, regulations, and markets of the countries in which we operate. As a result, our foreign manufacturing operations and sales are subject to inherent risks associated with the countries in which we operate. Risks involving our foreign operations include differences or unexpected changes in regulatory requirements, political and economic instability, terrorism and civil unrest, work stoppages or strikes, natural disasters, interruptions in transportation, restrictions on the export or import of technology, difficulties in staffing and managing international operations, variations in tariffs, quotas, taxes, and other market barriers, longer payment cycles, changes in economic conditions in the international markets in which our products are sold, and greater fluctuations in sales to customers in developing countries. Any inability to effectively manage the risks associated with our foreign operations may have a material adverse effect on our results of operations or financial condition.

Operational difficulties at our facilities may negatively impact our business.

Our operations may experience unscheduled downtimes due to technical or structural failure, political and economic instability, terrorism and civil unrest, natural disasters, and other operational hazards inherent to our operations. These hazards may cause personal injury or loss of life, severe damage to or destruction of property, equipment, or the environment, and may result in the suspension of operations or the imposition of civil or criminal penalties. Our insurance may not be adequate to cover such potential hazards and we may not be able to renew our insurance on commercially reasonable terms or at all. In addition, any reduction in the yield or quality of the products we produce could negatively impact our ability to market our products. Any decrease in the quality, reduction in volume, or cessation of our operations due to these hazards would have a material adverse effect on the results of our business and financial condition.

Our success depends on our ability to manage the growth of our operations.

Our strategy envisions a period of rapid growth that may impose a significant burden on our administrative and operational resources and personnel, which, if not effectively managed, could impair our growth. The growth of our business will require significant investments of capital and management's close attention. If we are unable to successfully manage our growth, our sales may not increase commensurately with capital expenditures and investments. Our ability to effectively manage our growth will require us to substantially expand the capabilities of our administrative and operational resources and to attract, train, manage and retain qualified management, technicians and other personnel. In addition to our plans to adopt technologies that expand our operations and product offerings at our biodiesel and ethanol plants, we may seek to enter into strategic business relationships with companies to expand our operations. If we are unable to successfully manage our growth, we may be unable to achieve our business goals, which may have a material adverse effect on the results of our operations and financial condition.

Our business may be subject to natural forces beyond our control.

Earthquakes, floods, droughts, tsunamis, and other unfavorable weather conditions may affect our operations. Natural catastrophes may have a detrimental effect on our supply and distribution channels, causing a delay or preventing our receipt of raw materials from our suppliers or delivery of finished goods to our customers. In addition, weather conditions may adversely impact the planting, growth, harvest, storage, and general availability of any number of the products we may process at our facilities or sell to our customers. The severity of these occurrences, should they ever occur, will determine the extent to which and if our business is materially and adversely affected.

U.S. tax law changes could materially affect the tax aspects of our business and the industries in which we compete.

Continued developments in U.S. tax reform could adversely affect our results of operations and cash flows. It is also possible that provisions of U.S. tax reform could be subsequently amended in a way that is adverse to the Company. Although we believe that our income tax provisions and accruals are reasonable and in accordance with generally accepted accounting principles in the United States, and that we prepare our tax filings in accordance with all applicable tax laws, the final determination with respect to any tax audits and any related litigation, could be materially different from our historical income tax provisions and accruals. The results of a tax audit or litigation could materially affect our operating results and cash flows in the periods for which that determination is made. In addition, future period net income may be adversely impacted by litigation costs, settlements, penalties, and interest assessments.

Future sales and issuances of rights to purchase common stock by us could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We may issue equity or convertible securities in the future. To the extent, we do so, our stockholders may experience substantial dilution. We may sell common stock, convertible securities, or other equity securities in one or more transactions at prices and in a manner, we determine from time to time. If we sell common stock, convertible securities, or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales and new investors could gain rights superior to our existing stockholders.

Inflation may adversely affect us by increasing costs of our business.

Inflation can adversely affect us by increasing costs of feedstock, equipment, materials, and labor. In addition, inflation is often accompanied by higher interest rates. In an inflationary environment, such as the current economic environment, depending on other economic conditions, we may be unable to raise prices of our fuels or products to keep up with the rate of inflation, which would reduce our profit margins. Given the inflation rates in fiscal year 2022, we have experienced, and continue to experience, increases in prices of feedstock, equipment, materials, and labor. Continued inflationary pressures could impact our profitability.

Interest rates could change substantially, materially impacting our profitability.

Our borrowings expose us to interest rate risk, which could adversely affecting our profitability. We monitor and manage this exposure as part of our overall risk management program, but the changes in interest rates cannot always be predicted, hedged, or offset with price increases to eliminate earnings volatility.

Inflation, including as a result of commodity price inflation or supply chain constraints due to the war in Ukraine, may adversely impact our results of operations.

We have experienced inflationary impacts on key production inputs, feedstock, wages and other costs of labor, equipment, services, and other business expenses. Commodity prices in particular have risen significantly over the past year. Inflation and its negative impacts could escalate in future periods. In addition, inflation is often accompanied by higher interest rates.

Ukraine is the third largest exporter of grain in the world. Russia is one of the largest producers of natural gas and oil. The commodity price impact of the war in Ukraine has been a sharp rise in grain and energy prices, including corn and natural gas, two of our primary production input commodities. In addition, the war in Ukraine has and may continue to adversely affect global supply chains resulting in further commodity price inflation for our production inputs. Also, given high global grain prices, U.S. farmers may prefer to lock in prices and export additional volumes, reducing domestic grain supplies and resulting in further inflationary pressures.

In an inflationary environment, such as the current economic environment, depending on other economic conditions, we may be unable to raise prices of our fuels or products to keep up with the rate of inflation, which would reduce our profit margins. As a result, inflation may have a material adverse effect on our results of operations and financial condition.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

California Ethanol

Ethanol Plant in Keyes, CA. The Keyes Plant is situated on approximately 11 acres of land and contains 25,284 square feet of plant building and structures. The property is located adjacent to the Union Pacific Railroad system to facilitate the inbound transportation of feedstock. Our tangible and intangible assets, including the Keyes Plant, are subject to perfected first liens and mortgages as further described in Note 4. Debt, of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K.

CO_2 Land in Keyes, CA. On December 3, 2018, we acquired 5.32 acres of parcel land next to our Keyes Plant. The leased land is utilized by Messer Gas to receive CO_2 from the Keyes Plant, and produce liquid CO_2 for sale into local markets.

California Dairy Renewable Natural Gas

Dairy Biogas Digesters, Central Valley, CA. Since 2019, we have entered into arrangements with over 25 dairies in the Central Valley of California to build dairy digesters on the dairies' land with a term of 25 years with two optional 5-year extensions. ABGL continues to negotiate and sign participation agreements with local dairies and convert those agreements into fully executed leases.

India Biodiesel

Biodiesel Plant in Kakinada, India. The Kakinada Plant is situated on approximately 32,000 square meters of land in Kakinada, India. The property is located 7.5 kilometers from the local seaport with connectivity through a third-party pipeline to the port jetty. The pipeline facilitates the importing of raw materials and exporting of finished products.

Pretreatment Plant. During 2022, we acquire 3,683 square meters of land in Remannapalem Village, Kakinada.

India Administrative Office. On April 2, 2019, we entered into a three-year lease of approximately 1,000 square feet of office space to accommodate our principal administrative, sales and marketing facilities in Hyderabad, India.

We productively utilize the majority of the space in these facilities.

Other Initiatives

The agreements with the City of Riverbank and the acquisition of GAFI are intended for future expansion and deployment of our SAF and renewable biodiesel fuel technology.

Corporate Office. Our corporate headquarters are located at 20400 Stevens Creek Blvd., Suite 700, Cupertino, CA. The Cupertino facility office space consists of 9,238 rentable square feet. We extended the lease in June 2020 for an additional eight years with a new termination date of May 31, 2028.

Carbon Zero 1 Plant in Riverbank, CA. On February 3, 2017, we entered into a lease agreement with City of Riverbank Local Redevelopment Authority for leasing of approximately 71,000 square feet. The space is leased for 5 years with 10 five-year extensions allowed. The space is being utilized to build the Carbon Zero 1 Facility. On December 14, 2021, we entered into a real estate purchase agreements and lease disposition and development agreement with the City of Riverbank. We plan to utilize the purchased and leased properties, located at 5300 Claus Road in the city of Riverbank, California, for the construction of the Carbon Zero 1 Facility. Pursuant to the lease disposition and development agreement, we will serve as the master developer for the development of the leased property to develop, construct, finance, operate and maintain the leased property. The lease commenced on February 12, 2022 and the term is for fifteen years.

Land, Building and Equipment in Goodland, KS. On December 31, 2019, we exercised our option to acquire all of the capital stock of GAFI, comprising of approximately 93 acres of land, approximately 34,992 square feet of buildings and equipment as part of a partially completed 40 million gallon per year dry-mill ethanol plant.

Faith Home Road, Ceres, CA. In April 2022, we acquired an 8.5-acre property on Faith Home Road, located near the Keyes Plant. The corner property is a strategic location for operations supporting the company's Carbon Zero projects, including diary RNG and CCS. Currently, ABGL is using the site as the location for their office headquarters.

Item 3. Legal Proceedings

Not Applicable.

Item 4. Mine Safety Disclosures.

Not Applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is traded on the NASDAQ Stock Market under the symbol "AMTX." Prior to trading on NASDAQ, between November 15, 2011 and June 5, 2014 our common stock was traded on the OTC Bulletin Board under the symbol "AMTX." Between December 7, 2007 and November 15, 2011, our common stock traded on the OTC Bulletin Board under the symbol "AEBF." Prior to December 7, 2007, our common stock traded on the OTC Bulletin Board under the symbol "MWII."

Shareholders of Record

According to the records of our transfer agent, we had 175 stockholders of record as of March 1, 2023. This figure does not include "street name" holders or beneficial holders of our common stock whose shares are held of record by banks, brokers and other financial institutions.

Dividends

We have never declared or paid any cash dividends on our common stock. We currently expect to retain any future earnings for use in the operation and expansion of our business and to reduce our outstanding debt and do not anticipate paying any cash dividends in the foreseeable future. Information with respect to restrictions on paying dividends is set forth in *Note 4. Debt* of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K.

Sales of Unregistered Equity Securities

None.

Item 6. Selected Financial Data

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Our Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is provided in addition to the accompanying consolidated financial statements and notes to assist readers in understanding our results of operations, financial condition, and cash flows. MD&A is organized as follows:

- *Overview. Discussion of our business and overall analysis of financial and other highlights affecting us, to provide context for the remainder of MD&A.*

- *Key Performance Indicators. Discussion of our key performance indicators, to provide context for company operations.*

- *Results of Operations. An analysis of our financial results comparing the twelve months ended December 31, 2022 and 2021.*

- *Liquidity and Capital Resources. An analysis of changes in our balance sheets and cash flows and discussion of our financial condition.*

- *Critical Accounting Estimates. Accounting estimates that we believe are important to understanding the assumptions and judgments incorporated in our reported financial results and forecasts.*

The following discussion should be read in conjunction with our consolidated financial statements and accompanying notes included elsewhere in this report. The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Report, particularly under "Part I, Item 1A. Risk Factors," and in other reports we file with the SEC. All references to years relate to the calendar year ended December 31 of the particular year.

This section of this Form 10-K generally discusses 2022 and 2021 items and year-to-year comparisons between 2022 and 2021. Discussions of 2020 items and year-to-year comparisons between 2021 and 2020 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Overview

Founded in 2006 and headquartered in Cupertino, California, Aemetis, Inc. (collectively with its subsidiaries on a consolidated basis referred to herein as, "Aemetis," the "Company," "we," "our" or "us") is an international renewable natural gas, and renewable fuels company focused on the acquisition, development and commercialization of innovative negative carbon intensity products and technologies that replace traditional petroleum-based products. We operate in three reportable segments consisting of "California Ethanol," "California Dairy Renewable Natural Gas," and "India Biodiesel." We have other operating segments determined *not* to be reportable segments and are collectively represented by the "All Other" category. At Aemetis, our mission is to generate sustainable and innovative renewable fuel solutions that benefit communities and restore our environment. We do this by building a local circular bioeconomy utilizing agricultural waste to produce low carbon, advanced renewable fuels that reduce greenhouse gas ("GHG") emissions and improve air quality by replacing traditional petroleum-based products. For revenue and other information regarding our operating segments, see Note 11 - Segment Information, of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K.

Our California Ethanol segment consists of a 65 million gallon per year capacity ethanol production facility located in Keyes, California (the "Keyes Plant") that we own and operate. In addition to low carbon renewable fuel ethanol, the Keyes Plant produces Wet Distillers Grains ("WDG"), Distillers Corn Oil ("DCO"), Carbon Dioxide ("CO2") and Condensed Distillers Solubles ("CDS"), all of which are sold as animal feed to more than 80 local dairies and feedlots, with CO_2 sold to food, beverage, and industrial customers. We have several energy efficiency initiatives focused on significantly lowering the carbon intensity of our fuels, primarily by decreasing our use of petroleum-based natural gas. These energy efficiency projects include: high efficiency heat exchangers; the Mitsubishi ZEBREX™ ethanol dehydration system; a two-megawatt solar microgrid with battery storage; the Allen Bradley Decision Control System (DCS) to manage and optimize energy use and other plant operations; and the Mechanical Vapor Recompression (MVR) system to reuse steam. These projects are expected to reduce petroleum natural gas use by converting key Keyes Plant processes to use electricity rather than natural gas and powering systems using low-carbon-intensity hydroelectric electricity or electricity produced onsite from solar panels.

In the third quarter of 2022, we completed the installation and began the operation of the ZEBREX™ ethanol dehydration system at the Keyes Plant, a key first step in the electrification of the Keyes Plant, that is expected to significantly reduce the use of petroleum-based natural gas as process energy at the plant. The electrification, along with the future installation of the two-megawatt zero carbon intensity solar microgrid system and the mechanical vapor recompression (MVR) system, will significantly reduce GHG emissions from the production facility and decrease the carbon intensity (CI) of fuel produced at the Keyes Plant. The lower CI of ethanol produced at the Keyes Plant will allow us to realize a higher price for the ethanol produced and sold at the Keyes Plant.

Our California Dairy Renewable Natural segment Aemetis Biogas or "ABGL," constructs and operates bio-methane anaerobic digesters at local dairies near the Keyes Plant (many of whom also purchase WDG produced by the Keyes Plant as animal feed); transports the biogas via pipeline to the Keyes Plant site; converts the biogas to Renewable Natural Gas ("RNG") which is then delivered to customers through the PG&E natural gas pipeline.

The Aemetis Biogas network includes the Aemetis Biogas Central Dairy Project, which operates 40 miles of completed biogas pipeline; four operating dairy digesters; five dairy digesters that are under construction; a centralized biogas-to-RNG conversion facility located at the Keyes Plant site; and a renewable natural gas interconnection with the PG&E utility gas pipeline. A total of 30 dairies have signed contracts with Aemetis Biogas in connection with participation in the Aemetis Biogas Central Dairy Project.

The dairy digesters are connected via an underground private pipeline owned by ABGL to a gas cleanup and compression unit at the Keyes Plant to produce dairy renewable natural gas ("RNG"). Upon receiving the bio-methane from the dairies, impurities are removed, and the bio-methane is converted to negative carbon intensity RNG that is injected into the statewide PG&E gas utility pipeline for use as transportation fuel or used as renewable process energy at the Keyes Plant.

Our India Biodiesel segment owns and operates a plant in Kakinada, India ("Kakinada Plant") with a nameplate capacity of 150 thousand metric tons per year, or about 50 million gallons per year, producing high quality distilled biodiesel and refined glycerin for customers in India and Europe. We believe the Kakinada Plant is one of the largest biodiesel production facilities in India on a nameplate capacity basis. Kakinada Plant is capable of processing a variety of vegetable oils and animal fat waste feedstocks into biodiesel that meets international product standards. Our Kakinada Plant can also distill the crude glycerin byproduct from the biodiesel refining process into refined glycerin, which is sold to the pharmaceutical, personal care, paint, adhesive, and other industries.

Our All Other segment consists of: Carbon Zero biofuels production plants to produce renewable diesel and sustainable aviation fuel; Carbon Capture and Sequestration compression system and injection wells; a research and development facility in Minneapolis, Minnesota; and our corporate offices in Cupertino, California.

Our Carbon Zero biofuels production plants are designed to produce low or negative carbon intensity sustainable aviation fuel ("SAF") and renewable diesel fuel ("RD") utilizing low carbon hydroelectric electricity, renewable hydrogen and non-edible renewable oils sourced from existing Aemetis biofuels plants and other sources. The first Carbon Zero plant is scheduled to be built in Riverbank, California at the 125-acre former Riverbank Army ammunition plant. The Riverbank plant is expected to utilize zero carbon hydroelectric and other renewable power available onsite to produce 90 million gallons per year of SAF, RD, and other byproducts. The plant is expected to supply the aviation and truck markets with ultra-low carbon renewable fuels to reduce GHG emissions and other pollutants associated with conventional petroleum-based fuels. By producing ultra-low carbon renewable fuels, the Company expects to capture high value D3 Renewable Identification Numbers ("RINs") under the federal Renewable Fuel Standard ("RFS"), generate California Low Carbon Fuel Standard ("LCFS") credits, and produce Inflation Reduction Act tax credits.

Our Carbon Capture subsidiary was established to build Carbon Capture and Sequestration ("CCS") projects that generate LCFS and IRS 45Q tax credits by compressing and injecting CO_2 into deep wells which are monitored for emissions to ensure the long-term sequestration of carbon underground. California's Central Valley has been identified as one of the world's most favorable regions for large-scale CO_2 injection projects due to the subsurface geologic formation that absorbs and retains CO_2 gas. The two initial Aemetis CCS injection projects are expected to capture and sequester more than two million metric tons per year of CO_2 at the Aemetis biofuels plant sites in Keyes and Riverbank, California. In July 2022, Aemetis purchased 24 acres located on the Riverbank Industrial Complex site in Riverbank, California to develop a CCS injection well with more than 1 million metric tonnes per year of CO_2 sequestration capacity. The Company plans to construct a characterization well at each site to obtain soil information for permitting as required for the EPA Class VI CO_2 injection well permit application.

Our Minneapolis, Minnesota research and development laboratory develops efficient conversion technologies using low carbon intensity and waste feedstocks to produce low or below zero carbon intensity biofuels and biochemicals. We are focused on processes that extract sugar from cellulosic feedstocks and then utilize the remaining biomass to produce low carbon renewable hydrogen for the production of sustainable aviation fuel, renewable diesel and potentially sale of renewable hydrogen to third parties as transportation fuel.

California Ethanol Revenue

Revenue generation for our California Ethanol segment relies upon supplying ethanol into the transportation fuel market in Northern California and supplying feed products to dairy and other animal feed operations in Northern California. We are actively implementing plans that will bring higher value for our fuel ethanol in an effort to improve our overall margins and to add incremental income to the California Ethanol segment, including, the implementation of the Solar Microgrid System, the installation of the Zebrex ethanol dehydration system, the installation of mechanical vapor recompression, and other energy efficiency technologies. The energy efficiency upgrades to the Keyes plant will result in higher LCFS value through the reduction of the carbon intensity of the fuel ethanol produced. On December 22, 2022, the Keyes Plant entered maintenance mode, in March 2023, the Keyes Plant is in process of restarting operations.

During 2022, we produced five products at the Keyes Plant: denatured fuel ethanol, WDG, DCO, CO_2, and CDS. Ethanol is sold directly to our fuel marketing partner Murex LLC ("Murex"). We own the ethanol stored in our finished goods tank. WDG are sold to A.L. Gilbert and DCO is sold to other customers under the J.D. Heiskell Purchase Agreement. Smaller amounts of CDS are sold to various local third parties. The CO_2 produced by the plant is sold to Messer Gas.

California Ethanol revenue is dependent on the price of ethanol, WDG, CDS, CO_2, and DCO. Ethanol pricing is influenced by local and national production and inventory levels, imported ethanol, corn prices, and gasoline demand, and is determined pursuant to a marketing agreement with a single fuel marketing customer and is generally based on daily and monthly pricing for ethanol delivered to the San Francisco Bay Area, California, as published by Oil Price Information Service ("OPIS"), as well as quarterly contracts negotiated by our marketing company with local fuel blenders. The price for WDG is influenced by the price of corn, the supply and price of distillers dried grains, and demand from the local dairy and feed markets and determined monthly pursuant to a marketing agreement with A.L. Gilbert and is generally determined in reference to the local price of dried distillers' grains and other comparable feed products. Our revenue is further influenced by the price of natural gas, our decision to operate the Keyes Plant at various capacity levels, conduct required maintenance, and respond to biological processes affecting output.

California Dairy Renewable Natural Gas Revenue

In December 2018, we utilized our relationships with California's Central Valley dairy farmers by signing leases and raising funds to construct dairy digesters, a 40-mile pipeline, and a biogas-to-RNG facility to deliver fuels for sale to utility gas pipeline. We are currently producing RNG from four digesters connected by our pipeline, then flowing this gas to our RNG cleanup and compression hub at the Keyes Plant. The RNG upgrade unit at the Keyes Plant enables the production and delivery of utility-grade RNG for sale as transportation fuel to California customers via the PG&E pipeline delivery interconnection.

In addition to the existing and operating dairy digesters, we currently have five additional dairy digesters that are under construction. We have approximately 30 signed agreements with dairies to construct dairy digesters. Our revenue development strategy for the Dairy Renewable Natural Gas segment relies upon continuing to collect bio-methane gas from the existing dairy digesters, continuing to build out the network of dairy digesters, extending the pipeline to grow the supply of RNG available for sale and utilizing the biogas-to-RNG upgrade unit to distribute utility-grade RNG to customers statewide. We are currently storing the produced RNG until the LCFS CI pathway for each dairy has been approved, after which we will sell the stored gas to transportation customers statewide.

Inflation Reduction Act of 2022

For all facilities in the United States, we plan to utilize the provision of the Inflation Reduction Act of 2022 by qualifying for renewable energy credits, whether in the form of an Investment Tax Credit, Producers Tax Credit or other credits and monetize the credits using the provisions of this congressional act.

India Biodiesel Revenue

Our revenue strategy in India is based on continuing to sell biodiesel to our bulk fuel customers, fuel station customers, mining customers, industrial customers and tender offers placed by Government Oil Marketing Companies ("OMCs") for bulk purchases of fuels. Recently, the government of India updated the national biofuels policy and adopted a new tax on diesel to promote biodiesel blending. As a result, the OMCs are pricing the tenders at economically viable levels, allowing for biodiesel producers in India to begin production.

During the third quarter, we received an OMC's tender offer for 17,250 kiloliters (approximately 16,974 metric tons) which was fulfilled. We are pursuing future tenders.

Other Income

During the second quarter of 2022, a grant in the amount of $14.2 million was received from the USDA's Biofuel Producer Program, created as part of the CARES Act, to compensate biofuel producers who experienced market losses due to the COVID-19 pandemic.

Key Performance Indicators (KPI):

Aemetis measures performance primarily on the utilization of its plants and the production of products. For California ethanol, the products are ethanol and WDG, measured in millions of gallons sold and tons sold, respectively. For biodiesel production, the products are biodiesel and refined glycerin, both measured in metric tons sold. Since our Keyes Plant uses a single feedstock, the delivered quantity and cost of corn is also used as a key performance indicator for this facility, as it indicates high-level profitability of the plant. Utilization is measured as the production of transportation fuel produced as a percentage of the nameplate capacity, the engineering specification of the plant. Management utilizes these metrics to assess cash generated by each facility on a daily or weekly basis and to make decisions on the appropriate level of operation to balance market demand with plant capabilities and efficiency and allow the investor to understand the major components that comprise revenues within each segment.

The following table summarized our KPIs:

Production and Price Performance
(Unaudited)

	Years ended December 31,		2022 vs 2021 % Change
	2022	**2021**	
Ethanol			
Gallons Sold (in millions)	59.0	59.8	-1.3%
Average Sales Price/Gallon	$ 2.81	$ 2.72	3.3%
Percent of nameplate capacity	107%	109%	-1.8%
WDG			
Tons Sold (in thousands)	397	404	-1.7%
Average Sales Price/Ton	$ 128	$ 103	24.3%
Delivered Cost of Corn			
Bushels ground (in millions)	20.2	20.9	-3.3%
Average delivered cost / bushel	$ 9.65	$ 7.53	28.2%
Dairy Renewable Natural Gas			
MMBtu external sales (in thousands)	8.4	-	100.0%
MMBtu stored as inventory (in thousands)	9.0	-	100.0%
MMBtu intercompany sales (in thousands)	48.6	53.0	-8.3%
Biodiesel			
Metric tons sold (in thousands)	17.7	0.5	3440.0%
Average Sales Price/Metric ton	$ 1,526	$ 1,024	49.0%
Percent of Nameplate Capacity	12%	0%	
Refined Glycerin			
Metric tons sold (in thousands)	1.2	0.1	1100.0%
Average Sales Price/Metric ton	$ 850	$ 956	-11.1%

Results of Operations

Year Ended December 31, 2022 Compared to Year Ended December 31, 2021

Revenues

Our revenues are derived primarily from sales of ethanol and WDG for California Ethanol, renewable natural gas for California Dairy Renewable Natural Gas, and biodiesel and refined glycerin for India Biodiesel.

We sell our ethanol to Murex pursuant to a Fuel Ethanol Purchase and Sale Agreement. Under the terms of the agreement, the initial term matures on October 31, 2023 with automatic one-year renewals thereafter. We entered into an agreement with A.L. Gilbert in 2011 to market and sell our WDG that will expire on December 31, 2023 with automatic renewals for additional one-year terms. Pursuant to these agreements, our marketing costs for ethanol and WDG are less than 2% of sales.

Most of our California Dairy Renewable Natural Gas segment revenues during the year ended December 31, 2022 were from sales of biogas to the Keyes Plant for use in boilers, which allowed qualification of carbon credits for the ethanol produced in the Keyes Plant. During the fourth quarter, we began to sell RNG to an external party.

Substantially all of our India segment revenues during the years ended December 31, 2022 and 2021 were from sales of biodiesel and refined glycerin.

Revenue

Fiscal Year Ended December 31 (in thousands)

			2022 vs 2021	
	2022	**2021**	**Inc/(dec)**	**% change**
California Ethanol	$ 228,194	$ 211,251	$ 16,943	8.0%
California Dairy Renewable Natural Gas*	1,210	1,445	(235)	-16.3%
India Biodiesel	28,111	696	27,415	3938.9%
All Other	-	2	(2)	-100.0%
Eliminations	(1,002)	(1,445)	443	-30.7%
Total	$ 256,513	$ 211,949	$ 44,564	21%

*Most California Dairy Renewable Natural Gas revenue is intercompany, refer to Footnote 11 for split between intercompany and external sales.

California Ethanol. For the year ended December 31, 2022, the segment generated 73% of revenue from sales of ethanol, 22% from sales of WDG, and 5% from sales of corn oil, CDS, CO_2, and other sales. During the year ended December 31, 2022, plant production averaged 107% of the 55 million gallon per year nameplate capacity. The increase in revenues was primarily due to an increase in WDG price coupled with increase in ethanol and corn oil prices. Ethanol volume decreased from 59.8 million gallons for the year ended December 31, 2021 to 59.0 million gallons for the year ended December 31, 2022, which was partially offset by the increase in price of ethanol per gallon sold to $2.81 for the year ended December 31, 2022, compared to $2.72 per gallon for the year ended December 31, 2021. The average price of WDG increased by 25% to $128 per ton for the year ended December 31, 2022 while WDG sales volume decrease by 2% to 397 thousand tons in the year ended December 31, 2022, compared to 404 thousand tons in the year ended December 31, 2021.

California Dairy Renewable Natural Gas. During the years ended December 31, 2022 and 2021, we produced and sold 48.6 thousand and 53.0 thousand British thermal units ("MMBtu") of biogas, respectively, to an intercompany party. In addition, during the year ended December, 31, 2022, we sold 8.4 MMBTU to an external party, at an average price of $25 per MMBTU.

India Biodiesel. For the year ended December 31, 2022, the segment generated 96% of revenue from sales of biodiesel, and 4% from other sales, compared to 67% of sales from biodiesel, and 33% from other sales during the year ended December 31, 2021. The increase in revenues for the year ended December 31, 2022 compared to the year ended December 31, 2021 was due to an increase in the sales volume of biodiesel from 0.5 thousand metric tons to 17.7 thousand metric tons. The increase in revenues was primarily attributable to the Kakinada Plant obtaining and executing on the Indian government tenders. The average sales price of biodiesel increased to $1,526 per metric ton for the year ended December 31, 2022, compared to $1,024 per metric ton in the same period in 2021.

Cost of Goods Sold

Cost of goods sold consists primarily of feedstock, chemicals, direct costs (principally labor and labor related costs) and factory overhead. Depending upon the costs of these inputs in comparison to the sales price of our end products, our gross margins at any given time can vary from positive to negative. Factory overhead includes direct and indirect costs associated with the plant operations, including the cost of repairs and maintenance, consumables, maintenance, on-site security, insurance, depreciation and inbound freight.

Substantially all of our feedstock for California Ethanol is procured by J.D. Heiskell pursuant to the Heiskell Supply Agreement. Title to the corn passes to us when the corn is deposited into our weigh bin and entered into the production process. Our cost of feedstock is established by J.D Heiskell based on the Chicago Board of Trade pricing and includes rail, truck or ship transportation, local basis costs and a handling fee paid to J.D. Heiskell. The credit term of the corn purchased from J.D. Heiskell is one day. Cost of goods sold also includes chemicals, plant overhead and out-bound transportation. Plant overhead includes direct and indirect costs associated with the operation of the Keyes Plant, including the cost of electricity and natural gas, maintenance, insurance, direct labor, depreciation and freight. Transportation includes the costs of in-bound delivery of corn by rail, inbound delivery of grain by ship, rail, and truck, and out-bound shipments of ethanol and WDG by truck.

Substantially all of our feedstock for California Dairy Renewable Natural Gas is supplied from dairy operators who lease us land and contract for supply of their manure flush. Our cost of feedstock is established by manure supply agreements based upon the value of the environmental attributes and the size of the dairy.

Substantially all of our feedstock is for India Biodiesel is procured as crude palm stearin, a non-edible feedstock, from neighboring natural oil processing plants at a discount to refined palm oil or import from international market when prices are viable. Raw material is received by truck and title passes when the goods are loaded at our vendors' facilities. Credit terms vary by vendor. However, we generally receive 15 days of credit on the purchases. We purchase crude glycerin in the international market on letters of credit or advance payment terms.

Cost of Goods Sold

Fiscal Year Ended December 31 (in thousands)

						2022 vs 2021	
		2022		**2021**		**Inc/(dec)**	**% change**
California Ethanol	$	241,211	$	201,686	$	39,525	19.6%
California Dairy Renewable Natural Gas		1,988		1,933		55	2.8%
India Biodiesel		19,838		719		19,119	2659.1%
All other		13		1,117		(1,104)	-98.8%
Eliminations		(1,002)		(1,445)		443	-30.7%
Total	$	262,048	$	204,010	$	58,038	28%

California Ethanol. We ground 20.2 million bushels of corn at an average price of $9.65 per bushel during the year ended December 31, 2022, compared to 20.9 million bushels of corn at an average price of $7.53 per bushel during the year ended December 31, 2021. In addition, for the year ended December 31, 2022, we incurred $4.0 million more in natural gas costs, and $2.1 million more in transportation costs.

California Dairy Renewable Natural Gas. Cost of Goods Sold expenses relate to dairy manure payments, maintenance on the dairy digesters, production bonuses, and depreciation.

India Biodiesel. The increase in cost of goods sold during the year ended December 31, 2022, compared to December 31, 2021, was attributable to an increase in the volume of biodiesel feedstock by 3440% to 17.7 thousand metric tons during the year ended December 31, 2022, compared to 0.5 thousand tons during the year ended December 31, 2021, coupled with an increase in the average price of biodiesel feedstock by 36% to $843, compared to $619 in the same period in 2021.

All Other. All other Cost of Goods Sold during the year ended December 31, 2021 relates to the write-down of Aemetis Health Products inventory.

Gross Profit (loss)

Fiscal Year Ended December 31 (in thousands)

						2022 vs 2021	
		2022		**2021**		**Inc/(dec)**	**% change**
California Ethanol	$	(13,017)	$	9,565	$	(22,582)	-236.1%
California Dairy Renewable Natural Gas		(778)		(488)		(290)	59.4%
India Biodiesel		8,273		(23)		8,296	-36069.6%
All other		(13)		(1,115)		1,102	-98.8%
Total	$	(5,535)	$	7,939	$	(13,474)	-170%

California Ethanol. Gross profit decreased by 236% in the year ended December 31, 2022 primarily due to higher corn costs and lower volumes of ethanol and WDG sold combined with increased costs in natural gas and transportation compared to the same period in December 31, 2021.

*California Dairy Renewable Natural Ga*s. Gross loss relates to incurring more expenses as we begin to ramp up our Dairy Renewable Natural Gas business including dairy manure payments, maintenance on the dairy digesters, production bonuses, and depreciation.

India Biodiesel. The increase in gross profit was attributable to the increase in sales and production of biodiesel to fulfill the government's tender offer.

Operating (income)/expense and non-operating (income)/expense

In 2022 and 2021, substantially all of our R&D expenses were related to research and development activities in Minnesota. R&D expenses increased in the year ended December 31, 2022 due to increases in expenses related to research subcontract work and consultant and advisor fees.

SG&A expenses consist primarily of salaries and related expenses for employees, marketing expenses related to sales of ethanol and WDG in California Ethanol and biodiesel and other products in India Biodiesel, as well as professional fees, other corporate expenses, and related facilities expenses. SG&A expenses as a percentage of revenue in the year ended December 31, 2022 remained consistent at 11% in the year ended December 31, 2022 compared to the year ended December 31, 2021. The increase in SG&A expenses in the year ended December 31, 2022 was primarily due to an increase in headcount, salaries, and stock compensation of $3.7 million as two stock option grants made during the year, supplies and services of $1.2 million, and an increase to taxes, insurance, rent and utilities of $2.3 million, which were partially offset by a decrease in miscellaneous expense of $1.8 million, and other operating income of $0.5 million as compared to the SG&A expenses during the year ended December 31, 2021.

				2022 vs 2021	
		2022	**2021**	**Inc/(dec)**	**% change**
Research and development expenses	$	180	$ 88	$ 92	105%
Selling, general and administrative expenses		28,686	$ 23,676	$ 5,010	21%
Other expense (income):					
Interest expense					
Interest rate expense		21,407	$ 20,136	$ 1,271	6%
Debt related fees and amortization expense		7,363	3,921	3,442	88%
Accretion and other expenses of Series A preferred units		9,888	7,718	2,170	28%
Loss (gain) on debt extinguishment		49,386	(1,134)	50,520	-4455%
Gain on litigation		(1,400)	-	(1,400)	0%
Other (income) expense		(14,340)	809	(15,149)	-1873%

Other expense (income) consists primarily of interest and amortization expense attributable to our debt facilities and those of our subsidiaries and accretion of our Series A preferred units. The debt facilities include stock or warrants issued as fees. The fair value of stock and warrants are amortized as amortization expense, except when the extinguishment accounting method is applied, in which case refinanced debt costs are recorded as extinguishment expense. Interest expense and debt related fees and amortization increased in the year ended December 31, 2022 due to higher variable interest rates and having higher debt balances by obtaining the Carbon Revolving line, Fuels Revolving line, and the construction loan with Greater Nevada Credit Union ("The Construction Loan"). The increase in accretion and other expenses of the Series A Preferred Units was due to accelerated accretion due to a PUPA Amendment. Gain on litigation arose from the settlement of the EdenIQ lawsuit in the second quarter. The loss on debt extinguishment was due to the PUPA Amendment. Other expense (income) change is related to a grant in the amount of $14.2 million received from the USDA's Biofuel Producer Program, created as part of the CARES Act, to compensate biofuel producers who experienced market losses due to the COVID-19 pandemic.

Liquidity and Capital Resources

Cash and Cash Equivalents

Cash and cash equivalents were $4.3 million at December 31, 2022, of which $1.6 million was held in our North American entities and $2.7 million was held in our Indian entity. Our current ratio was 0.21 and 0.32, respectively, at December 31, 2022 and 2021. We expect that our future available liquidity resources will consist primarily of cash generated from operations, remaining cash balances, borrowings available, if any, under our senior debt facilities and our subordinated debt facilities, and any additional funds raised through sales of equity. The use of proceeds from all equity raises and debt financings are subject to approval by our senior lender.

Liquidity

Cash and cash equivalents, current assets, current liabilities and debt at the end of each period were as follows (in thousands):

	As of	
	December 31, 2022	December 31, 2021
Cash and cash equivalents	$ 4,313	$ 7,751
Current assets (including cash, cash equivalents, and deposits)	18,136	20,693
Current and long term liabilities (excluding all debt)	162,728	92,302
Current & long term debt	246,240	188,767

Our principal sources of liquidity have been cash provided by the sale of equity, operations, and borrowings under various debt arrangements.

We launched an EB-5 Phase II funding in 2016, under which we expect to issue $50.8 million in additional EB-5 Notes on substantially similar terms and conditions as those issued under our EB-5 Phase I funding. On November 21, 2019, the minimum investment amount was raised from $500,000 per investor to $900,000 per investor. As of December 31, 2020, EB-5 Phase II funding in the amount of $4.0 million had been released from escrow to the Company. Our principal uses of cash have been to refinance indebtedness, fund operations, and for capital expenditures. We anticipate these uses will continue to be our principal uses of cash in the future. Global financial and credit markets have been volatile in recent years, and future adverse conditions of these markets could negatively affect our ability to secure funds or raise capital at a reasonable cost, or at all.

We operate in a volatile market in which we have limited control over the major components of input costs and product revenues, and are making investments in future facilities and facility upgrades that improve the overall margin while lessening the impact of these volatile markets. As such, we expect cash provided by operating activities to fluctuate in future periods primarily because of changes in the prices for corn, ethanol, WDG, DCO, CDS, biodiesel, waste fats and oils, glycerin, non-refined palm oil and natural gas. To the extent that we experience periods in which the spread between ethanol prices, and corn and energy costs narrow or the spread between biodiesel prices and waste fats and oils or palm oil and energy costs narrow, we may require additional working capital to fund operations.

As a result of negative capital and negative operating results, and collateralization of substantially all of the Company assets, we have been reliant on its senior secured lender to provide additional funding and have been required to remit substantially all excess cash from operations to the senior secured lender. In order to meet obligations during the next twelve months, we will need to either refinance our debt or receive the continued cooperation of its senior lender. We plan to pursue the following strategies to improve the course of the business.

For the Keyes Plant, we plan to operate the plant and continue to improve its financial performance by adopting new technologies or process changes that allow for energy efficiency, cost reduction or revenue enhancements, as well as execute upon awarded grants that improve energy and operational efficiencies resulting in lower cost, lower carbon demands and overall margin improvement.

For the ABGL project, we plan to operate the biogas digesters to capture and monetize biogas as well as continue to build new dairy digesters and extend the existing pipeline in order to capture the higher carbon credits available in California. Funding for continued construction is based upon, obtaining government guaranteed loans and executing on existing and new state grant programs.

For the Riverbank project, we plan to raise the funds necessary to construct and operate the Carbon Zero plant using loan guarantees and public financings based upon the licensed technology that generate federal and state carbon credits available for ultra-low carbon fuels utilizing lower cost, non-food advanced feedstocks to significantly increase margins.

For all facilities in the United States, we plan to utilize the provision of the Inflation Reduction Act of 2022 by qualifying for renewable energy credits, whether in the form of an Investment Tax Credit, Producers Tax Credit or other credits and monetize the credits using the provisions of this congressional act.

For the Kakinada Plant, we plan to continue to develop sales channels for domestic products as the costs of feedstock normalize against the price of diesel, as recently announced governmental incentives take effect to promote the blending of biodiesel, and as feedstocks such as refined animal tallow are used domestically and exported. Additionally, we are in the process of obtaining approval to export refined animal tallow and biodiesel produced using animal tallow into international markets as the use of refined animal tallow received approval from the Pollution Control Board of India for production of biodiesel.

In addition to the above we plan to continue to locate funding for existing and new business opportunities through a combination of working with our senior lender, restructuring existing loan agreements, selling high yield debt instruments, selling bonds in the taxable and tax-exempt markets, selling equity through the ATM and otherwise, selling the current EB-5 Phase II offering, or by vendor financing arrangements.

As of December 31, 2022, the outstanding balance of principal, interest and fees, net of discounts, on all Third Eye Capital Notes equaled $156 million. The maturity dates for the Third Eye Capital financing arrangements are April 1, 2023, for $106 million with the ability to extend to April 1, 2024, March 1, 2025, for $27 million, and March 1, 2026, for $23 million.

As of the date of this report, the Company has $50.0 million additional borrowing capacity to fund future cash flow requirements under the Reserve Liquidity Notes due on April 1, 2024.

Our senior lender has provided a series of accommodating amendments to the existing and previous loan facilities as described in further detail in *Note 4. Debt* of the Notes to Consolidated Financial Statements of this Form 10-K. However, there can be no assurance that our senior lender will continue to provide further amendments or accommodations or will fund additional amounts in the future.

We also rely on our working capital lines with Gemini and Secunderabad Oils in India to fund our commercial arrangements for the acquisitions of feedstock. We currently provide our own working capital for the Keyes Plant; Gemini and Secunderabad Oils currently provide us with working capital for the Kakinada Plant. The ability of Gemini, and Secunderabad Oils to continue to provide us with working capital depends in part on both of their respective financial strength and banking relationships.

Change in Working Capital and Cash Flows

The below table (in thousands) describes the changes in current and long-term debt during the year ended December 31, 2022:

Increases to debt:				
Accrued interest	$	22,560		
Maturity date extension fee and other fees		2,337		
Sub debt extension fees		680		
Fuels Revolving Line draw		32,980		
Carbon Revolving Line draw		30,500		
Construction Loan draw		20,159		
Working capital loan draw		3,941		
Financing for equipment term loan		290		
Total Increases to debt			$	113,447
Decreases to debt:				
Principal, fees, and interest payments to senior lender	$	(45,058)		
Principal and interest payments to EB-5 investors		(217)		
Change in debt issuance costs, net of amortization		(6,315)		
Term loan payments		(36)		
Construction Loan payments		(286)		
Working capital loan payments		(4,062)		
Total Decreases to debt			$	(55,974)
Change in total debt			$	57,473

Working capital changes resulted in (i) a $0.5 million decrease in inventories, (ii) a $0.3 million decrease in accounts receivable, (iii) a $1.4 million decrease in prepaid expenses, (iv) an increase in other current assets of $3.0 million, and (v) a $3.4 million decrease in cash caused by selling lower volumes of ethanol in the fourth quarter.

Cash used in operating activities was $22.9 million, derived from a net loss of $107.8 million, reduced by non-cash charges of $78.8 million, and changes in operating assets and liabilities of $6.1 million. The non-cash charges consisted of: (i) $7.4 million in amortization of debt issuance costs and other intangible assets, (ii) $5.5 million in depreciation expenses, (iii) $6.4 million in stock-based compensation expense, (iv) $9.8 million in preferred unit accretion and other expenses of Series A preferred units, (v) a loss on debt extinguishment of $49.4 million, (vi) a loss on a lease termination of $0.7 million, (vii) a gain on litigation of $1.4 million, and (viii) an increase in deferred tax liability of $0.8 million. Net changes in operating assets and liabilities consisted primarily of a decrease in (i) inventories of $0.4 million, (ii) prepaid expenses of $1.8 million, (iii) accounts receivable of $0.3 million, (iv) an increase in accounts payable of $2.2 million, and (v) an increase in accrued interest and fees of $15.5 million. This was partially offset by (i) an increase in other assets of $3.9 million and (ii) a decrease in other liabilities $10.0 million.

Cash used by investing activities was $31.3 million, of which $8.5 million was used for capital projects in the Keyes Plant, $22.9 million was used for capital projects related to Dairy Renewable Natural Gas, $0.1 million for capital projects at the India Plant, and $7.6 million related to all other capital projects. This was partially offset by grant proceeds of $7.9 million.

Cash provided by financing activities was $53.6 million, consisting primarily of $0.2 million from exercises of stock options, $12.0 million from issuance of common stock, and $69.4 million from proceeds from borrowings, partially offset by repayments of borrowings of $26.3 million, debt renewal and waiver fee payments of $1.2 million, and payments on finance leases of $0.5 million.

In October 2020, we commenced an at-the-market offering program, which allows us to sell and issue shares of our common stock from time-to-time. During the year ended December 31, 2022, we issued 1.5 million shares of common stock under the at-the-market offering program for net proceeds of $12.0 million net of commissions and offering related expenses. As of December 31, 2022, we had capacity to issue up to $276.0 million of common stock under the at-the-market offering program.

Off-Balance Sheet Arrangements

We had no outstanding off-balance sheet arrangements as of December 31, 2022.

Critical Accounting Policies and Estimates

Our discussion and analysis of financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of net sales and expenses for each period. We believe that of our most significant accounting policies and estimates, defined as those policies and estimates that we believe are the most important to the portrayal of our financial condition and results of operations and that require management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain are: revenue recognition; recoverability of long-lived assets, Series A Preferred unit liability, and debt modification and extinguishment accounting.

Revenue Recognition

In May 2014, the Financial Accounting Standards Board ("FASB") issued new guidance on the recognition of revenue. The guidance stated that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard was effective for annual reporting periods beginning after December 15, 2018, including interim periods within that reporting period. In March and April 2016, the FASB issued further revenue recognition guidance amending principal versus agent considerations regarding whether an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services. The Company adopted this guidance on January 1, 2019 using the modified retrospective approach. There was no cumulative impact to retained earnings. We assessed all of our revenue streams to identify any differences in the timing, measurement or presentation of revenue recognition.

Revenue Recognition. We derive revenue primarily from sales of ethanol and related co-products in California Ethanol, renewable natural gas for California Dairy Renewable Natural Gas, and biodiesel in India Biodiesel pursuant to supply agreements and purchase order contracts. We assessed the following criteria under the ASC 606 guidance: (i) identify the contracts with customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations, and (v) recognize revenue when the entity satisfies the performance obligations.

We have elected to adopt the practical expedient that allows for ignoring the significant financing component of a contract when estimating the transaction price when the transfer of promised goods to the customer and customer payment for such goods are expected to be within one year of contract inception. Further, we have elected to adopt the practical expedient in which incremental costs of obtaining a contract are expensed when the amortization period would otherwise be less than one year.

California Ethanol: Until May 13, 2020, we sold all our ethanol to J.D. Heiskell & Co. ("J.D. Heiskell") under the Working Capital and Purchasing Agreement (the "J.D. Heiskell Purchasing Agreement"). On May 13, 2020, we entered into an amendment to the Corn Procurement and Working Capital Agreement with J.D. Heiskell (the "Corn Procurement and Working Capital"), under the terms of which we buy all corn from J.D. Heiskell and sell all WDG and corn oil we produce to J.D. Heiskell. Following May 13, 2020, we sold the majority of our fuel ethanol production to one customer, Kinergy Marketing, LLC ("Kinergy"), through individual sales transactions. We terminated the Ethanol Marketing Agreement with Kinergy as of September 30, 2021. Effective October 1, 2021, we entered into Fuel Ethanol Purchase and Sale Agreement with Murex. Given the similarity of the individual sales transactions with Kinergy and Murex, we have assessed them as a portfolio of similar contracts. The performance obligation is satisfied by delivery of the physical product to one of our customer's contracted trucking companies. Upon delivery, the customer has the ability to direct the use of the product and receive substantially all of its benefits. The transaction price is determined based on daily market prices negotiated by Kinergy for ethanol and by our marketing partner A.L. Gilbert Company ("A.L. Gilbert") for WDG. There is no transaction price allocation needed.

The below table shows our sales in California Ethanol by product category:

California Ethanol	**For the twelve months ended December 31,**	
	2022	**2021**
Ethanol sales	$ 165,876	$ 162,428
Wet distiller's grains sales	50,930	41,476
Other sales	11,388	7,347
	$ 228,194	$ 211,251

We also assessed principal versus agent criteria as we buy our feedstock from our customers and process and sell finished goods to those customers in some contractual agreements.

In California Ethanol, we assessed principal versus agent criteria as we buy corn as feedstock in producing ethanol from our working capital partner J.D. Heiskell and sell all WDG and corn oil produced in this process to J.D. Heiskell through A.L. Gilbert. We sold all ethanol we produced to J.D. Heiskell until May 13, 2020. We consider the purchase of corn as a cost of goods sold and the sale of ethanol, upon transfer to the common carrier, as revenue on the basis that (i) we control and bear the risk of gain or loss on the processing of corn which is purchased at market prices into ethanol and (ii) we have legal title to the goods during the processing time. The pricing for both corn and ethanol is set independently. Revenues from sales of ethanol and its co-products are billed net of the related transportation and marketing charges. The transportation component is accounted for in cost of goods sold and the marketing component is accounted for in sales, general and administrative expense. Transportation and marketing charges are known within days of the transaction and are recorded at the actual amounts. The Company has elected an accounting policy under which these charges have been treated as fulfillment activities provided after control has transferred. As a result, these charges are recognized in cost of goods sold and selling, general and administrative expenses, respectively, when revenue is recognized. Revenues are recorded at the gross invoiced amount. Hence, we are the principal in sales scenarios where our customer and vendor may be the same.

India Biodiesel: We sell products pursuant to purchase orders (written or verbal) or by contract with governmental or international parties, in which performance is satisfied by delivery and acceptance of the physical product. Given that the contracts are sufficiently similar in nature, we have assessed these contracts as a portfolio of similar contracts as allowed under the practical expedient. Doing so does not result in a materially different outcome compared to individually accounting for each contract. All domestic and international deliveries are subject to certain specifications as identified in contracts. The transaction price is determined daily based on reference market prices for biodiesel, refined glycerin, and Palm Fatty Acid Distillers ("PFAD") net of taxes. There is no transaction price allocation needed.

The below table shows our sales in India Biodiesel by product category:

India Biodiesel	**For the twelve months ended December 31,**	
	2022	**2021**
Biodiesel sales	$ 27,041	$ 465
Other sales	1,070	231
	$ 28,111	$ 696

We also assessed principal versus agent criteria as we buy our feedstock from our customers and process and sell finished goods to those same customers in certain contractual agreements. In those cases, we receive the legal title to feedstock from our customers once it is on our premises. We control the processing and production of biodiesel based on contract terms and specifications. The pricing for both feedstock and biodiesel is set independently. We hold the title and risk to biodiesel according to agreements when we enter into in these situations. Hence, we are the principal in sales scenarios where our customer and vendor may be the same.

Recoverability of Our Long-Lived Assets

Property and Equipment

Property, plant and equipment are carried at cost less accumulated depreciation after assets are placed in service and are comprised primarily of buildings, furniture, machinery, equipment, land, and plants in North America and India. When property, plant and equipment are acquired as part of an acquisition, the items are recorded at fair value on the purchase date. It is our policy to depreciate capital assets over their estimated useful lives using the straight-line method.

Impairment of Long-Lived Assets

Our long-lived assets consist of property, plant and equipment. We review long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset may not be recoverable. We measure recoverability of assets to be held and used by comparing the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, we record an impairment charge in the amount by which the carrying amount of the asset exceeds the fair value of the asset.

The impairment test for long-lived assets requires us to make estimates regarding amount and timing of projected cash flows to be generated by an asset or asset group over an extended period of time. Management judgment regarding the existence of circumstances that indicate impairment is based on numerous potential factors including, but not limited to, a decline in our future projected cash flows, a decision to suspend operations at a plant for an extended period of time, adoption of our product by the market, a sustained decline in our market capitalization, a sustained decline in market prices for similar assets or businesses, or a significant adverse change in legal or regulatory factors or the business climate. Significant management judgment is required in determining the fair value of our long-lived assets to measure impairment, including projections of future cash flows. Fair value is determined through various valuation techniques including discounted cash flow models, market values and third-party independent appraisals, as considered necessary. Changes in estimates of fair value could result in a write-down of the asset in a future period.

Long-term assets are analyzed below based on their line items on the consolidated balance sheet and the lowest level where the assets are expected to generate cash flow or work as a functional unit. We consider the lowest level Asset Group as one where the value of the asset becomes independent from the other assets and has the ability to operate on an independent basis, and results in a functional unit. We therefore group the reporting units into the following: the Keyes, California ethanol plant, the Kakinada, India biodiesel plant, the Central California Dairy Digester Network, the Riverbank, California Carbon Zero plant under development, the Goodland Energy Center LLC, which consists of a partially completed dry-mill, and the Carbon Capture Sequestration asset group under development. These asset groups represent our significant long-lived assets. Both plants were operated efficiently and no asset groups showed indicators of impairment, therefore no impairment test was needed for our Company's long-lived assets.

Series A Preferred unit liability and Testing for Debt Modification or Extinguishment Accounting

During 2022 and 2021, we evaluated amendments to our debt under the ASC 470-50 guidance for modification and extinguishment accounting and under ASC 470-60 for Troubled Debt Restructuring. This evaluation for modification and extinguishment included comparing the net present value of cash flows of the new debt to the old debt to determine if changes greater than 10 percent occurred. In instances where our future cash flows changed more than 10 percent, we recorded our debt at fair value based on factors available to us for similar borrowings and used the extinguishment accounting method to account for the debt extinguishment. The evaluation for troubled debt restructuring included assessing whether the creditor granted a concession. To determine this, we calculate the post-restructuring effective interest rate by projecting cash flows on the new terms and calculating a discount rate equal to the carrying amount of pre-restructuring debt, and comparing this calculation to the terms of prior amendments. If the post restructuring effective interest rate is less than the prior terms effective interest rate, we assess this as having been granted a concession. We then apply troubled debt restructuring accounting to any debt in which the creditor granted a concession.

Recently Issued Accounting Pronouncements

Refer to Note 1 of the Financial Statements for a description of new accounting pronouncements.

Item 8. Financial Statements and Supplementary Data

Financial Statements are listed in the Index to Consolidated Financial Statements on page 54 of this Report.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

The information contained in this section covers management's evaluation of our disclosure controls and procedures and our assessment of our internal control over financial reporting for the year ended December 31, 2022.

Evaluation of Disclosure Controls and Procedures

Management, with the participation of our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act). Based on this evaluation, our CEO and CFO concluded that, although remediation plans were initiated to address the material weakness over financial reporting as identified in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, the disclosure controls and procedures along with the related internal controls over financial reporting were not effective to provide reasonable assurance that the information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms, and is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Inherent Limitations on Effectiveness of Controls

Our management, including the CEO and CFO, does not expect that our disclosure controls or our internal control over financial reporting will prevent or detect all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Our controls and procedures are designed to provide reasonable assurance that our control system's objective will be met, and our CEO and CFO have concluded that our disclosure controls and procedures are effective at the reasonable assurance level. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of the effectiveness of controls in future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with GAAP. Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures by us are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the consolidated financial statements.

Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of the period covered by this report based on the criteria for effective internal control described in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Tread way Commission - 2013. Based on the results of management's assessment and evaluation, our CEO and CFO concluded that our internal control over financial reporting was not effective due to not maintaining sufficient information technology general controls (ITGCs) and segregation of duties in the areas of user access and change-management over certain information technology systems used in the Company's financial reporting processes that arose during the prior year as we applied the higher Sarbanes-Oxley standards applicable to accelerated filers to our system of internal control over financial reporting.

Changes in Internal Control over Financial Reporting

Discussed below are changes made to our internal control over financial reporting during the quarter ended December 31, 2022 in response to an identified material weakness. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. As of December 31, 2022, we concluded that the prior year material weakness related to our failure to design and maintain effective controls over our supervision and review of the completeness and accuracy of complex transactions was remediated through the hiring of additional staff which allowed more focus by our staff who are qualified to address the completeness and accuracy of complex transactions. Our plan to remediate the material weakness identified last year related to ITGCs and information technology systems requires a longer process, and we began our remediation efforts during 2022, which are continuing.

Our efforts to remediate the material weakness related to ITGCs and information technology systems identified above are focused on replacing our ERP system with a system that includes the higher levels of control, principally over change controls and segregation of duties, required by an accelerated filer. The selection of an appropriate ERP system was completed during the year ended December 31, 2022. The implementation of this new system is currently underway, along with a reassessment of those manual controls associated with the existing ERP system. The implementation of the newly selected ERP system is expected to occur during the year ended December 31, 2023. There are, however, inherent limitations in all control systems and no evaluation of controls can provide absolute assurance that all deficiencies have been detected. While these actions and planned actions are subject to ongoing management evaluation and will require validation and testing of the design and operating effectiveness of internal controls over a sustained period of financial reporting cycles, we are committed to the continuous improvement of our internal control over financial reporting and will continue to diligently review our internal control over financial reporting.

Our independent registered public accounting firm, RSM US LLP, has issued an audit report on the effectiveness of our internal control over financial reporting and their report is included herein.

Item 9B. Other Information

Third Eye Reserve Liquidity Facility

On March 6, 2023, Third Eye Capital agreed to extend a one year reserve liquidity facility governed by a promissory note of $50.0 million to April 1, 2024. Borrowings under the facility are available until maturity on April 1, 2024. Interest on borrowed amounts accrues at a rate of 30% per annum, paid monthly in arrears and may be capitalized and due upon maturity, or 40% if an event of default has occurred and continues. The outstanding principal balance of the indebtedness evidenced by the promissory note, plus any accrued but unpaid interest and any other sums due thereunder, shall be due and payable in full at the earlier to occur of (a) receipt by the Company or its affiliates of proceeds from any sale, merger, equity or debt financing, refinancing or other similar transaction from any third party and (b) April 1, 2024. Any amounts may be reborrowed up to repaid amounts up until the maturity date of April 1, 2024. The promissory note is secured by liens and security interests upon the property and assets of the Company. In addition, if any initial advances are drawn under the facility, the Company will pay a nonrefundable onetime fee in the amount of $0.5 million provided that such fee may be added to the principal amount of the promissory note on the date of such initial advance.

Third Eye Capital Limited Waiver and Amendment No. 25

On March 6, 2023, Third Eye Capital agreed to the Limited Waiver and Amendment No. 25 to the Note Purchase Agreement ("Amendment No. 25") to: provide a waiver for the Keyes Plant Minimum Quarterly Production violation for the quarter ended March 31, 2023, in which the Borrowers will not meet the 10 million gallon production requirement. As consideration for such waivers, the Borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million in cash.

PART III

Item 10. Directors, Executive Officers and Governance

The information required by this Item 10 will be included in our Proxy Statement for our 2023 Annual Meeting of Stockholders to be filed no later than 120 days after December 31, 2022, and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item 11 will be included in our Proxy Statement for our 2023 Annual Meeting of Stockholders to be filed no later than 120 days after December 31, 2022, and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item 12 will be included in our Proxy Statement for our 2023 Annual Meeting of Stockholders to be filed no later than 120 days after December 31, 2022, and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item 13 will be included in our Proxy Statement for our 2023 Annual Meeting of Stockholders to be filed no later than 120 days after December 31, 2022, and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this Item 14 will be included in our Proxy Statement for our 2023 Annual Meeting of Stockholders to be filed no later than 120 days after December 31, 2022, and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents are filed as a part of this Form 10-K:

1. Financial Statements:

The following financial statements of Aemetis, Inc. are filed as a part of this Annual Report:

- Report of Independent Registered Public Accounting Firm (PCAOB ID 49)
- Consolidated Balance Sheets
- Consolidated Statements of Operations and Comprehensive Loss
- Consolidated Statements of Cash Flows
- Consolidated Statements of Stockholders’ Deficit
- Notes to Consolidated Financial Statements

2. Financial Statement Schedules:

All schedules have been omitted as the required information is inapplicable or the information is presented in the Consolidated Financial Statements and notes thereto under Item 8 in Part II of this Form 10-K.

3. Exhibits:

INDEX TO EXHIBITS

Exhibit No.	Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
3.1.1	Certificate of Incorporation	8-K	001-35475	3.1	Nov. 2, 2021	
3.1.2	Certificate of Designation of Series B Preferred Stock	8-K	001-35475	3.2	Nov. 2, 2021	
3.2.1	By Laws	8-K	001-35475	3.3	Nov. 2, 2021	
4.1	Specimen Common Stock Certificate	8-K	000-51354	4.1	Dec. 13, 2007	
4.2	Specimen Series B Preferred Stock Certificate	8-K	000-51354	4.2	Dec. 13, 2007	
4.3	Form of Common Stock Warrant	8-K	000-51354	4.3	Dec. 13, 2007	
4.4	Form of Series B Preferred Stock Warrant	8-K	000-51354	4.4	Dec. 13, 2007	
10.1	Amended and Restated 2007 Stock Plan	14A	000-51354		Apr. 3, 2015	
10.2	Amended and Restated 2007 Stock Plan form of Stock Option Award Agreement	14A	000-51354		Apr. 15, 2008	
10.3	Eric McAfee Executive Employment Agreement dated September 1, 2011	8-K	000-51354	10.2	Sep. 8, 2011	
10.4	Andrew Foster Executive Employment Agreement, dated May 22, 2007	8-K	000-51354	10.7	Dec. 13, 2007	
10.5	Todd Waltz Executive Employment Agreement, dated March 15, 2010	8-K	000-51354		May 20, 2009	
10.6	Sanjeev Gupta Executive Employment Agreement, dated September 1, 2007	10-K	000-51354	10.11	May 20, 2009	
10.7	Agreement of Loan for Overall Limit dated June 26, 2008 between Universal Biofuels Private Limited and State Bank of India	10-Q	000-51354	10.12	Aug. 14, 2008	
10.8	Ethanol Marketing Agreement, dated October 29, 2010 between AE Advanced Fuels Keyes, Inc. and Kinergy Marketing, LLC	10-Q	000-51354	10.6	Dec. 1, 2010	
10.9	Zymetis, Inc. 2006 Stock Incentive Plan	10-K	000-51354	10.31	Oct. 31, 2012	
10.10	Zymetis Inc. Incentive Stock Option Agreement	10-K	000-51354	10.32	Oct. 31, 2012	
10.11	Zymetis Inc. Non-Incentive Stock Option Agreement	10-K	000-51354	10.33	Oct. 31, 2012	
10.12	First Amendment to Ethanol Marketing Agreement dated September 6, 2011, between AE Advanced Fuels Keyes, Inc. and Kinergy Energy Marketing	8-K	000-51354	10.1	Sept. 8, 2011	
10.13	Form of Note and Warrant Purchase Agreement	8-K	000-51354	10.1	Jan. 1, 2012	
10.14	Form of 5% Subordinated Note	8-K	000-51354	10.2	Jan. 1, 2012	
10.15	Form of Common Stock Warrant	8-K	000-51354	10.3	Jan. 1, 2012	
10.16	Amendment No. 6 to Note Purchase Agreement dated April 13, 2012 among Aemetis Advanced Fuels Keyes, Inc., Third Eye Capital Corporation, as agent, and the Purchasers	8-K	000-51354	10.1	Apr. 19, 2012	

10.17	Limited Waiver to Note Purchase Agreement dated March 31, 2012 among Aemetis Advanced Fuels Keyes, Inc., and Third Eye Capital Corporation, an Ontario corporation, as agent	8-K	000-51354	10.1	Apr. 19, 2012
10.18	Limited Waiver to Note and Warrant Purchase Agreement dated March 31, 2012 among Aemetis, Inc., Third Eye Capital Corporation, an Ontario corporation, as agent, and the Purchasers	8-K	000-51354	10.1	Apr. 19, 2012
10.19	Amendment No. 7 to Note Purchase Agreement dated May 15, 2012 among Aemetis Advanced Fuels Keyes, Inc., Third Eye Capital Corporation, as agent, and the Purchasers	8-K	000-51354	10.1	May 22, 2012
10.20	Form of Note and Warrant Purchase Agreement	8-K	000-51354	10.1	Jun. 6, 2012
10.21	Form of 5% Subordinated Note	8-K	000-51354	10.1	Jun. 6, 2012
10.22	Form of Common Stock Warrant	8-K	000-51354	10.1	Jun. 6, 2012
10.23	Note and Warrant Purchase Agreement dated June 21, 2012 among Third Eye Capital Corporation, Aemetis Advanced Fuels Keyes, Inc., and Aemetis, Inc.	8-K	000-51354	10.1	Jun. 28, 2012
10.24	5% Subordinated Promissory Note dated June 21, 2012 among Third Eye Capital Corporation, Aemetis Advanced Fuels Keyes, Inc., and Aemetis, Inc.	8-K	000-51354	10.2	Jun. 28, 2012
10.25	Form of Warrant to Purchase Common Stock	8-K	000-51354	10.3	Jun. 28, 2012
10.26	Note Purchase Agreement dated June 27, 2012 among Third Eye Capital Corporation, Aemetis Advanced Fuels Keyes, Inc., and Aemetis, Inc.	8-K	000-51354	10.1	July 3, 2012
10.27	15% Subordinated Promissory Note dated June 27, 2012 among Third Eye Capital Corporation, Aemetis Advanced Fuels Keyes, Inc., and Aemetis, Inc.	8-K	000-51354	10.2	July 3, 2012
10.28	Agreement and Plan of Merger, dated July 6, 2012, among Aemetis, Inc., AE Advanced Fuels, Inc., Keyes Facility Acquisition Corp., and Cilion, Inc.	8-K	000-51354	2.1	July 10, 2012
10.29	Stockholders' Agreement dated July 6, 2012, among Aemetis, Inc., and Western Milling Investors, LLC, as Security holders' Representative.	8-K	000-51354	10.1	July 10, 2012
10.30	Amended and Restated Note Purchase Agreement, dated July 6, 2012 among Aemetis Advanced Fuels Keyes, Inc., Keyes Facility Acquisition Corp., Aemetis, Inc., Third Eye Capital Corporation, as Administrative Agent, and the Note holders	8-K	000-51354	10.2	July 10, 2012
10.31	Amended and Restated Guaranty, dated July 6, 2012 among Aemetis, Inc., certain subsidiaries of Aemetis and Third Eye Capital Corporation, as Agent.	8-K	000-51354	10.3	July 10, 2012
10.32	Amended and Restated Security Agreement, dated July 6, 2012 among Aemetis, Inc., certain subsidiaries of Aemetis and Third Eye Capital Corporation, as Agent.	8-K	000-51354	10.4	July 10, 2012
10.33	Investors' Rights Agreement dated July 6, 2012, by and among Aemetis, Inc., and the investors listed on Schedule A thereto.	8-K	000-51354	10.5	July 10, 2012
10.34	Technology License Agreement dated August 9, 2012 between Chevron Lummus Global LLC and Aemetis Advanced Fuels, Inc.	8-K	000-51354	10.1	Aug. 22, 2012
10.35	Corn Procurement and Working Capital Agreement dated March 9, 2011 between J.D. Heiskell Holdings LLC and Aemetis Advanced Fuels Keyes, Inc.*	10-K	000-51354	10.64	Oct. 31, 2012
10.36	Purchasing Agreement dated March 9, 2011 between J.D. Heiskell Holdings LLC and Aemetis Advanced Fuels Keyes, Inc.*	10-K	000-51354	10.65	Oct. 31, 2012

10.37	WDG Purchase and Sale Agreement dated March 23, 2011 between A.L. Gilbert Company and Aemetis Advanced Fuels Keyes, Inc.	10-K	000-51354	10.66	Oct. 31, 2012
10.38	Keyes Corn Handling Agreement dated March 23, 2011 among A. L. Gilbert Company, AE Advanced Fuels Keyes, Inc., and J.D. Heiskell Holdings, LLC	10-K	000-51354	10.67	Oct. 31, 2012
10.39	Limited Waiver and Amendment No. 1 to Amended and Restated Note Purchase Agreement dated as of October 18, 2012 by and among Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation, Aemetis Facility Keyes, Inc., a Delaware corporation, Third Eye Capital Corporation, an Ontario corporation as agent, Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	8-K	000-51354	10.1	Oct. 23, 2012
10.40	Amendment No. 1 to Revolving Line of Credit Agreement dated October 16, 2012 by and among Aemetis International, Inc., a Nevada corporation, and Laird Q. Cagan	8-K	000-51354	10.2	Oct. 23, 2012
10.41	Note Purchase Agreement effective as of March 4, 2011, amended January 19, 2012 and July 24, 2012 by and among AE Advanced Fuels, Inc., a Delaware corporation, and Advanced BioEnergy, LP a California limited partnership and Advanced BioEnergy GP, LLC, a California limited liability company.	8-K	000-51354	10.3	Oct. 23, 2012
10.42	Form of Convertible Subordinated Promissory Note by and among AE Advanced Fuels, Inc., a Delaware corporation and Advanced BioEnergy, LP, a California limited partnership.	8-K	000-51354	10.4	Oct. 23, 2012
10.43	Amendment to the Purchasing Agreement dated March 9, 2011 between J.D. Heiskell Holdings LLC and Aemetis Advanced Fuels Keyes, Inc. dated September 29, 2012	10-K	000-51354	10.72	Apr. 4, 2013
10.44	Agreement for Repayment of Note by Share Issuance dated as of December 31, 2012 by and among Aemetis, Inc., Aemetis International, Inc., (formerly known as “International Biodiesel, Inc.”), a Nevada corporation and wholly-owned subsidiary of the Company, and Laird Q. Cagan for himself and on behalf of all other holders of interests in the Revolving Line of Credit (as defined in the Agreement).	8-K	000-51354	10.1	Jan. 7, 2013
10.45	Agreement for Repayment of Note by Share Issuance dated as of December 31, 2012 by and among Aemetis, Inc., Aemetis International, Inc., (formerly known as “International Biodiesel, Inc.”), a Nevada corporation and wholly-owned subsidiary of the Company, and Laird Q. Cagan for himself and on behalf of all other holders of interests in the Revolving Line of Credit (as defined in the Agreement).	8-K/A	000-51354	10.1	Feb. 27, 2013
10.46	Limited Waiver and Amendment No. 2 to Amended and Restated Note Purchase Agreement dated as of February 27, 2013 by and among Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation, Aemetis Facility Keyes, Inc., a Delaware corporation, Third Eye Capital Corporation, an Ontario corporation as agent, Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	8-K	000-51354	10.1	Mar. 11, 2013

10.47	Amendment No. 1 to Agreement for Repayment of Note by Share Issuance dated as of April 10, 2013 by and among Aemetis, Inc., Aemetis International, Inc., a Nevada corporation and wholly-owned subsidiary of the Company, and Laird Q. Cagan for himself and on behalf of all other holders of interests in the Revolving Line of Credit (as defined in the Agreement).	10-K	000-51354	10.77	Apr. 4, 2013
10.48	Amendment to the Purchasing Agreement dated March 9, 2011 between J.D. Heiskell Holdings LLC and Aemetis Advanced Fuels Keyes, Inc. dated January 2, 2013.	10-K	000-51354	10.76	Apr. 4, 2013
10.49	Limited Waiver and Amendment No.3 to Amended and Restated Note Purchase Agreement dated as of April 15, 2013 by and among Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation, Aemetis Facility Keyes, Inc., a Delaware corporation, Third Eye Capital Corporation, an Ontario corporation as agent, Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	8-K	000-51354	10.1	Apr. 16, 2013
10.5	Special Bridge Advance dated as of March 29, 2013 by and among Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation, Aemetis, Inc., a Nevada corporation, Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Insight Fund	8-K	000-51354	10.2	Apr. 16, 2013
10.505	Amendment No. 4 to Amended and Restated Note Purchase Agreement dated as of April 19, 2013 by and among Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation, Aemetis Facility Keyes, Inc., a Delaware corporation, Aemetis, Inc., a Nevada corporation, and Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Insight Fund	8-K/A	000-51354	10.2	May 14, 2013
10.51	Agreement For Satisfaction of Note by Share and Note Issuance dated as of April 18, 2013 between Aemetis, Inc., Aemetis International, Inc. and Laird Q. Cagan for himself and on behalf of all other holders of interests in the Revolving Line of Credit dated August 17, 2009 as amended.	8-K	000-51354	10.1	Apr. 24, 2013
10.52	Amended and Restated Heiskell Purchasing Agreement dated May 16, 2013, by and between Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation and a wholly-owned subsidiary of Aemetis, Inc. and J.D. Heiskell Holdings, LLC, a California limited liability company doing business as J.D. Heiskell & Co.*	8-K	000-51354	10.1	May 23, 2013
10.53	Amended and Restated Aemetis Keyes Corn Procurement and Working Capital Agreement, dated May 2, 2013, by and between Aemetis Advanced Fuels Keyes, Inc., and J.D. Heiskell Holdings, LLC	8-K	000-51354	10.2	May 23, 2013
10.54	Limited Waiver and Amendment No.5 to Amended and Restated Note Purchase Agreement, dated as of July 26, 2013 by and among Aemetis, Inc., Aemetis Advanced Fuels Keyes, Inc. Aemetis Facility Keyes, Inc., Third Eye Capital Corporation, an Ontario corporation, as agent, Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust	8-K	000-51354	10.1	July 31, 2013
10.55	Limited Waiver and Amendment No.6 to Amended and Restated Note Purchase Agreement, dated as of October 28, 2013 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	8-K	000-51354	10.1	Nov. 1, 2013

10.62	Limited Waiver and Amendment No.7 to Amended and Restated Note Purchase Agreement, dated as of May 14, 2014 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	10-Q	000-51354	10.1	Mar. 31, 2014
10.64	Limited Waiver and Amendment No. 8 to Amended and Restated Note Purchase Agreement, dated as of November 7, 2014 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	10-Q/A	000-51354	10.1	Nov. 13, 2014
10.65	Limited Waiver and Amendment No. 9 to Amended and Restated Note Purchase Agreement, dated as of March 12, 2015 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	10K	000-51354	10.1	Mar. 12,2015
10.66	Limited Waiver and Amendment No. 10 to Amended and Restated Note Purchase Agreement, dated as of April 30, 2015 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	10-Q	000-51354	10.1	May 7, 2015
10.67	Limited Waiver and Amendment No. 11 to Amended and Restated Note Purchase Agreement, dated as of August 6, 2015 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust (incorporated by reference to Exhibit 10.2 of the Quarterly Report on Form 10-Q filed on August 7, 2015).	10-Q	000-51354	10.1	Nov. 5, 2015
10.68	Limited Waiver and Amendment No. 12 to Amended and Restated Note Purchase Agreement, dated as of March 21, 2016 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	10-K	000-51354	10.68	Mar. 28, 2016
10.69	Binding letter of intent for the purchase of certain property, plant and equipment in Goodland, Kansas by Aemetis Advanced Fuels Goodland, Inc., or such other subsidiary of Aemetis Inc., dated March 22, 2016 from Third Eye Capital Corporation, in its capacity as attorney-in-fact for New Goodland Energy Center, LLC.	10-K	000-51354	10.69	Mar. 28, 2016
10.70	Limited Waiver and Amendment No. 13 to Amended and Restated Note Purchase Agreement, dated as of March 1, 2017by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Sprott PC Trust.	10-K	000-51354	10.70	Mar. 16, 2017
10.71	Limited Waiver and Amendment No. 14 to Amended and Restated Note Purchase Agreement, dated as of March 27, 2018 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	10-K	000-51354	10.71	Mar. 27, 2018

10.72	Promissory Note, dated as of March 27, 2018 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc., Aemetis, Inc.; and Third Eye Capital Corporation, an Ontario corporation,	10-K	000-51354	10.72	Mar. 27, 2018
10.73	Promissory Note, dated as of March 11, 2019 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc., Aemetis, Inc.; and Third Eye Capital Corporation, an Ontario corporation,	10-K	000-51354	10.73	Mar. 14, 2019
10.74	Limited Waiver and Amendment No. 15 to Amended and Restated Note Purchase Agreement, dated as of March 11, 2019 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	10-K	000-51354	10.74	Mar. 14, 2019
10.75	Promissory Note, dated as of March 6, 2020 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc., Aemetis, Inc.; and Third Eye Capital Corporation, an Ontario corporation,	10-K	000-51354	10.75	Mar. 6, 2020
10.77	Limited Waiver and Amendment No. 17 to Amended and Restated Note Purchase Agreement, dated as of August 11, 2020 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	10-Q	000-51354	10.1	August 13, 2020
10.78	Limited Waiver and Amendment No. 18 to Amended and Restated Note Purchase Agreement, dated as of November 5, 2020 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund – Insight Fund, and Sprott PC Trust.	10-Q	000-51354	99.1	November 12, 2020
10.79	Promissory Note, dated as of March 10, 2021 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc., Aemetis, Inc.; and Third Eye Capital Corporation, an Ontario corporation,	10-K	000-51354	10.79	March 14, 2021
10.80	Limited Waiver and Amendment No. 19 to Amended and Restated Note Purchase Agreement, dated as of March 14, 2021 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund – Insight Fund and Ninepoint.	10-K	000-51354	10.80	March 14, 2021
10.81	Limited Waiver and Amendment No. 20 to Amended and Restated Note Purchase Agreement, dated as of August 9, 2021 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund - Insight Fund, and Ninepoint Third Eye Capital Private Credit Fund.	10-Q	000-51354	10.1	August 12, 2021
10.82	Fourth Amended and Restated Promissory Note, dated as of August 9, 2021 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation including Third Eye Capital Management Inc.	10-Q	000-51354	10.2	August 12, 2021

10.83	Real Estate Purchase and Sale Agreement, dated as of December 14, 2021 by and between Aemetis Properties Riverbank, Inc. and City of Riverbank, California	8-K	001-36475	10.1	December 21, 2021	
10.84	Lease Disposition and Development Agreement, dated as of December 14, 2021 by and between Aemetis Properties Riverbank, Inc. and City of Riverbank, California	8-K	001-36475	10.2	December 21, 2021	
10.85	Guaranty Agreement, dated as of December 14, 2021 by and between Aemetis, Inc. and City of Riverbank, California	8-K	001-36475	10.3	December 21, 2021	
10.86	Real Estate Purchase and Sale Agreement, dated as of December 14, 2021 by and between Aemetis Properties Riverbank, Inc. and City of Riverbank, California	8-K	001-36475	10.4	December 21, 2021	
10.87	Warrant to Purchase Stock, dated as of March 2, 2022 ("Fuels Revolving Line Warrant")	8-K	001-36475	4.1	March 4, 2022	
10.88	Warrant to Purchase Stock, dated as of March 2, 2022 ("Carbon Revolving Line Warrant")	8-K	001-36475	4.2	March 4, 2022	
10.89	Amended and Restated Credit Agreement, dated as of March 2, 2022	8-K	001-36475	10.1	March 4, 2022	
10.90	Amended and Restated General Security Agreement, dated as of March 2, 2022	8-K	001-36475	10.2	March 4, 2022	
10.91	Intellectual Property Security Agreement Supplement, dated as of March 2, 2022	8-K	001-36475	10.3	March 4, 2022	
10.92	Third Amended and Restated Guaranty, dated as of March 2, 2022	8-K	001-36475	10.4	March 4, 2022	
10.93	Amended and Restated Pledge Agreement, dated as of March 2, 2022	8-K	001-36475	10.5	March 4, 2022	
10.94	Limited Waiver and Amendment No. 22 to Amended and Restated Note Purchase Agreement dated as of March 8, 2022 by and Among Aemetis Inc.; Aemetic Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation, an Ontario corporation, as agent for Third Eye Capital Credit Opportunities Fund- Insight Fund, and Ninepoint Third Eye Capital Private Credit Fund.	10-K	001-36475	10.94	December 31, 2021	
10.95	Limited Waiver and Amendment No. 23 to Amended and Restated Note Purchase Agreement, dated as of May 11, 2022 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; and Third Eye Capital Corporation, an Ontario corporation, as agent for Ninepoint - TEC Private Credit Fund and Third Eye Capital Credit Opportunities Fund - Insight Fund.	10-Q	000-51354	10.1	May 16, 2022	
10.96	Limited Waiver and Amendment No. 24 to Amended and Restated Note Purchase Agreement, dated as of August 8, 2022 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; and Third Eye Capital Corporation, an Ontario corporation, as agent for Ninepoint - TEC Private Credit Fund and Third Eye Capital Credit Opportunities Fund - Insight Fund.	10-Q	000-51354	10.1	August 8, 2022	
10.97	Waiver and Amendment to Series A Preferred Unit Purchase Agreement, dated as of August 8, 2022 by and among Aemetis Biogas LLC, Protair-X Americas, Inc., and Third Eye Capital Corporation.	10-Q	000-51354	10.2*	August 8, 2022	
10.98	Construction Loan Agreement, dated as of October 4, 2022, among Aemetis Biogas 1 LLC, as borrower, Aemetis Biogas Holdings LLC, as guarantor and Greater Nevada Credit Union, as lender.	8-K	000-51354	10.1	October 11, 2022	
10.99	Second Waiver and Amendment to Series A Preferred Unit Purchase Agreement, dated as of February 6, 2023, by and among Aemetis Biogas LLC, Protair-X Americas, Inc. and Third Eye Capital Corporation.	8-K	000-51354	10.1	February 6, 2023	
10.100	Sixth Amended and Restated Promissory Note, dated as of March 6, 2023 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; Third Eye Capital Corporation including Third Eye Capital Management Inc.					x
10.101	Limited Waiver and Amendment No. 25 to Amended and Restated Note Purchase Agreement, dated as of March 6, 2023 by and among Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Aemetis Facility Keyes, Inc.; and Third Eye Capital Corporation, an Ontario corporation, as agent for Ninepoint - TEC Private Credit Fund and Third Eye Capital Credit Opportunities Fund - Insight Fund.					x
10.102	Amended and Restated 2019 Stock Plan	14A	000-51354		July 23, 2021	
10.103	Executive Employment Agreement, dated April 25, 2020 with Eric A. McAfee	8-K	000-51354	10.1	April 28, 2020	
10.104	Executive Employment Agreement, dated April 25, 2020	8-K	000-51354	10.2	April 28,	

	with Todd Waltz				2020	
10.105	Executive Employment Agreement, dated April 25, 2020 with Andrew Foster	8-K	000-51354	10.3	April 28, 2020	
10.106	Executive Employment Agreement, dated April 25, 2020 with Sanjeev Gupta	8-K	000-51354	10.4	April 28, 2020	
14	Code of Ethics	10-K	000-51354	14	May 20, 2009	
21	Subsidiaries of the Registrant					x
23	Consent of Independent Registered Public Accounting Firm					x
24	Power of Attorney (see signature page)					x
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and Section 302 of the Sarbanes-Oxley Act of 2002					x
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and Section 302 of the Sarbanes-Oxley Act of 2002					x
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					x
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					x
101.INS *	Inline XBRL Instance Document					x
101.SCH *	Inline XBRL Taxonomy Extension Schema					x
101.CAL *	Inline XBRL Taxonomy Extension Calculation Linkbase					x
101.DEF *	Inline XBRL Taxonomy Extension Definition Linkbase					x
101.LAB *	Inline XBRL Taxonomy Extension Label Linkbase					x
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase					x
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)					x

*Confidential treatment has been requested for portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

AEMETIS, INC.
Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Aemetis, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Aemetis, Inc. and its subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, stockholders' deficit and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. Our report dated March 8, 2023 expressed an opinion that the Company had not maintained effective internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Liquidity & Management's Plan

As disclosed in Note 16 of the consolidated financial statements, the Company has been reliant on their senior secured lender for liquidity and has been required to remit substantially all excess cash from operations to the senior secured lender. Management believes, based on the Company's business plan, that cash flows from operations and established financing arrangements, including financing available under the reserve liquidity facility provided by the Company's senior secured lender, and potential additional issuances of common stock are sufficient to fund future cash flow requirements and satisfy the Company's obligations as they come due for at least one year from the financial statement issuance date.

We determined the adequacy of the available commitment on the reserve liquidity facility and the Company’s overall cash flow projections to be a critical audit matter because management’s plan includes certain significant assumptions related to the Company’s cash flow needs. Auditing management’s assumptions related to the Company’s cash flow needs involved a high degree of auditor judgment and increased audit efforts.

Our audit procedures related to the Company’s liquidity evaluation and the adequacy of the commitment on the reserve liquidity facility included the following, among others:

- We evaluated the reasonableness of forecasted cash needs by comparing to historical operating results as well as external forecasted market data for both ethanol and corn.

- We evaluated the reasonableness of management’s estimated reduction in current liabilities from the Company’s cash needs for a period of greater than a year from the financial statement issuance date by evaluating subordination agreements that are in place and the ability for the Company to defer interest payments on various debt agreements.

- We evaluated management’s forecasted cash needs in the context of other audit evidence obtained, including, but not limited to, board of director minutes and investor presentation to determine whether the other audit evidence supported or contradicted the forecast.

- We tested the subsequent event activity related to additional cash available or needs to additional funding of working capital through March 8, 2023.

- We tested the Company’s ability to maintain compliance with covenants under the existing loan agreements and the ability of the Company’s senior lender to provide the additional funding under the amended reserve liquidity facility.

Series A Preferred Unit Purchase Agreement amendment

As described in Note 6 of the consolidated financial statements, the Company amended its liability with a debt holder resulting in a $49.4 million loss on debt extinguishment for the year ended December 31, 2022. Management makes significant estimates and assumptions in determining the loss on extinguishment, such as the determination of whether the amendment of the agreement resulted in a troubled debt restructuring, determining whether the modified liability is substantially different from the pre-existing liability, and determining the fair value of the modified liability.

We identified the Company's Series A Preferred Unit Purchase Agreement amendment as a critical audit matter as there was a high degree of auditor judgment and increased audit effort, including the use of a valuation specialist, when performing procedures to evaluate the reasonableness of the significant estimates and assumptions utilized by management.

Our audit procedures related to the significant estimates and assumptions included the following, among others:

- We read the relevant documents and compared the terms to the Company's accounting documentation.

- We evaluated the Company's accounting determinations and application of the relevant accounting guidance, including the Company's assessment that a troubled debt restructuring did not occur as no concession was granted and that the modified liability was substantially different than the pre-existing liability.

- We evaluated the reasonableness of the Company's fair value measurement of the modified liability, which included testing the reasonableness of the modified liability's expected term and the use of valuation professionals with specialized skills and knowledge in testing the discount rate.

- We evaluated the reasonableness of the Company's accretion of the modified liability from fair value to the final redemption amount over the expected term.

/s/ RSM US LLP

We have served as the Company's auditor since 2012.

Des Moines, Iowa
March 8, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Aemetis, Inc.

Opinion on the Internal Control Over Financial Reporting

We have audited Aemetis, Inc. and its subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. In our opinion, because of the effect of the material weakness described below on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, stockholders' deficit and cash flows for the years then ended, and the related notes to the consolidated financial statements of the Company and our report dated March 8, 2023 expressed an unqualified opinion.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weakness has been identified and included in management's assessment. There were ineffective information technology general controls (ITGCs) and segregation of duties in the areas of user access and change-management over certain information technology systems used in the Company's financial reporting processes. As a result of the pervasive impact of these controls, automated and manual business process controls that are dependent on ITGCs and appropriate segregation of duties were also ineffective. Accordingly, our audit of the Company's financial statements noted above did not rely on the Company's internal control over financial reporting. This material weakness was considered in determining the nature, timing and extent of audit tests applied in our audit of the 2022 financial statements, and this report does not affect our report dated March 8, 2023 on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ RSM US LLP

Des Moines, Iowa
March 8, 2023

AEMETIS, INC.
CONSOLIDATED BALANCE SHEETS
AS OF December 31, 2022 and 2021
(In thousands except for par value)

	December 31, 2022		December 31, 2021	
Assets				
Current assets:				
Cash and cash equivalents ($165 and $19 respectively from VIE)	$	4,313	$	7,751
Accounts receivable, net of allowance for doubtful accounts of $0 and $1,404 as of December 31, 2022 and 2021, respectively ($165 and $0 respectively from VIE)		1,264		1,574
Inventories, net of allowance for excess and obsolete inventory of $1,040 as of December 31, 2022 and 2021		4,658		5,126
Prepaid expenses ($858 and $335 respectively from VIE)		4,248		5,598
Other current assets ($725 and $0 respectively from VIE)		3,653		644
Total current assets		18,136		20,693
Property, plant and equipment, net ($71,633 and $39,625 respectively from VIE)		180,441		135,101
Operating lease right-of-use assets ($224 and $10 respectively from VIE)		2,449		2,462
Other assets ($3,458 and $38 respectively from VIE)		6,088		2,575
Total assets	$	**207,114**	$	**160,831**
Liabilities and stockholders' deficit				
Current liabilities:				
Accounts payable ($9,192 and $4,950 respectively from VIE)	$	26,168	$	16,415
Current portion of long term debt		12,465		8,192
Short term borrowings ($19,831 and $9 respectively from VIE)		36,754		14,586
Mandatorily redeemable Series B convertible preferred stock		4,082		3,806
Accrued property taxes ($0 and $121 respectively from VIE)		1,206		6,830
Accrued contingent litigation fees		-		6,200
Current portion of operating lease liability ($41 and $11 respectively from VIE)		338		260
Current portion of Series A preferred units ($0 and $3,169 respectively from VIE)		-		3,169
Other current liabilities ($645 and $306 respectively from VIE)		7,268		5,872
Total current liabilities		88,281		65,330
Long term liabilities:				
Senior secured notes and revolving notes		155,843		121,451
EB-5 notes		29,500		32,500
Other long term debt ($31 and $40 respectively from VIE)		11,678		12,038
Series A preferred units ($116,000 and $44,978 respectively from VIE)		116,000		44,978
Operating lease liability ($115 and $0 respectively from VIE)		2,189		2,318
Other long term liabilities		5,477		2,454
Total long term liabilities		320,687		215,739
Stockholders' deficit:				
Series B convertible preferred stock, $0.001 par value; 7,235 authorized; 1,270 and 1,275 shares issued and outstanding each period, respectively (aggregate liquidation preference of $3,810 and $3,825 respectively)		1		1
Common stock, $0.001 par value; 80,000 authorized; 35,869 and 33,461 shares issued and outstanding each period, respectively		36		33
Additional paid-in capital		232,546		205,305
Accumulated deficit		(428,985)		(321,227)
Accumulated other comprehensive loss		(5,452)		(4,350)
Total stockholders' deficit		(201,854)		(120,238)
Total liabilities and stockholders' deficit	$	**207,114**	$	**160,831**

The accompanying notes are an integral part of the financial statements.

AEMETIS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
FOR THE YEARS ENDED December 31, 2022 and 2021
(In thousands, except for earnings per share)

	For the years ended December 31,	
	2022	**2021**
Revenues	$ 256,513	$ 211,949
Cost of goods sold	262,048	204,010
Gross (loss) profit	(5,535)	7,939
Research and development expenses	180	88
Selling, general and administrative expenses	28,686	23,676
Operating loss	(34,401)	(15,825)
Other expense (income):		
Interest expense		
Interest rate expense	21,407	20,136
Debt related fees and amortization expense	7,363	3,921
Accretion and other expenses of Series A preferred units	9,888	7,718
Loss (gain) on debt extinguishment	49,386	(1,134)
Gain on litigation	(1,400)	-
Other (income) expense	(14,340)	809
Loss before income taxes	(106,705)	(47,275)
Income tax expense (benefit)	1,053	(128)
Net loss	$ (107,758)	$ (47,147)
Other comprehensive (loss)		
Foreign currency translation loss	(1,102)	(236)
Comprehensive loss	$ (108,860)	$ (47,383)
Net loss per common share		
Basic	$ (3.12)	$ (1.54)
Diluted	$ (3.12)	$ (1.54)
Weighted average shares outstanding		
Basic	34,585	30,682
Diluted	34,585	30,682

The accompanying notes are an integral part of the financial statements.

AEMETIS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED December 31, 2022 and 2021
(In thousands)

	For the year ended December 31,	
	2022	2021
Operating activities:		
Net loss	$ (107,758)	$ (47,147)
Adjustments to reconcile net loss to net cash used by operating activities:		
Share-based compensation	6,410	3,928
Depreciation	5,535	5,448
Debt related fees and amortization expense	7,363	3,921
Intangibles and other amortization expense	46	46
Accretion and other expenses of Series A preferred units	9,888	7,718
Loss on asset disposals	47	-
Loss (gain) on debt extinguishment	49,386	(1,134)
Gain on litigation	(1,400)	-
Loss on lease termination	736	
Provision for excess and obsolete inventory	-	1,040
Provision for bad debts	-	144
Deferred Tax liability	832	-
Changes in operating assets and liabilities:		
Accounts receivable	294	94
Inventories	360	(2,211)
Prepaid expenses	1,777	(4,849)
Other assets	(3,941)	2,368
Accounts payable	2,183	(5,198)
Accrued interest expense and fees	15,501	14,456
Other liabilities	(10,125)	729
Net cash used in operating activities	(22,866)	(20,647)
Investing activities:		
Capital expenditures	(39,157)	(26,652)
Grant proceeds received for capital expenditures	7,851	3,758
Net cash used in investing activities	(31,306)	(22,894)
Financing activities:		
Proceeds from borrowings	69,356	-
Repayments of borrowings	(26,266)	(55,523)
TEC debt renewal and waiver fee payments	(1,169)	(1,108)
Grant proceeds received for capital expenditures	-	115
Payments on finance leases	(481)	(505)
Proceeds from issuance of common stock in equity offering	11,987	103,591
Proceeds from the exercise of stock options	206	1,304
Proceeds from Series A preferred units financing	-	3,130
Series A preferred financing redemption	-	(300)
Net cash provided by financing activities	53,633	50,704
Effect of exchange rate changes on cash and cash equivalents	(213)	(4)
Net change in cash and cash equivalents for period	(752)	7,159
Cash, cash equivalents, and restricted cash at beginning of period	7,751	592
Cash, cash equivalents, and restricted cash at end of period	6,999	7,751
Supplemental disclosures of cash flow information, cash paid:		
Cash paid for interest	$ 19,515	$ 5,682
Income taxes paid	10	7
Supplemental disclosures of cash flow information, non-cash transactions:		
Subordinated debt extension fees added to debt	680	680
Debt fees added to revolving lines	800	-
Fair value of warrants issued to subordinated debt holders	1,939	1,546
Fair value of stock issued to a related party for guarantee fees	2,012	-
Fair value of warrants issued to lender for debt issuance costs	3,158	-
Fair value of stock issued to lender	1,335	-
Fair value of warrants issued for capital expenditures	-	1,344
TEC debt extension, waiver fees, promissory notes fees added to debt	583	608
Capital expenditures in accounts payable	15,411	7,693
Payment of debt added to revolving lines	16,266	-
Operating lease liabilities arising from obtaining right of use assets	306	-
Financing lease liabilities arising from obtaining right of use assets	2,932	113
Capital expenditures purchased on financing	290	55
Issuance of equity to pay off accounts payable	-	893

The accompanying notes are an integral part of the financial statements.

AEMETIS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT
FOR THE YEARS ENDED December 31, 2022 and 2021
(In thousands)

	Series B Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total
	Shares	Dollars	Shares	Dollars				
Balance at December 31, 2020	1,323	$ 1	22,830	$ 23	$ 93,426	$ (274,080)	$ (4,114)	$ (184,744)
Issuance of common stock	-	-	7,796	8	103,760	-	-	103,768
Series B conversion to common stock	(48)	-	5	-	-	-	-	-
Stock options exercised	-	-	2,499	2	1,249	-	-	1,251
Stock-based compensation	-	-	-	-	3,928	-	-	3,928
Issuance and exercise of warrants	-	-	331	-	2,942	-	-	2,942
Foreign currency translation loss	-	-	-	-	-	-	(236)	(236)
Net loss	-	-	-	-	-	(47,147)	-	(47,147)
Balance at December 31, 2021	**1,275**	**1**	**33,461**	**33**	**205,305**	**(321,227)**	**(4,350)**	**(120,238)**
Issuance of common stock	-	-	1,885	3	15,530	-	-	15,533
Series B conversion to common stock	(5)	-	1	-	-	-	-	-
Stock options exercised	-	-	296	-	205	-	-	205
Stock-based compensation	-	-	-	-	6,410	-	-	6,410
Issuance and exercise of warrants	-	-	226	-	5,096	-	-	5,096
Foreign currency translation loss	-	-	-	-	-	-	(1,102)	(1,102)
Net loss	-	-	-	-	-	(107,758)	-	(107,758)
Balance at December 31, 2022	**1,270**	$ **1**	**35,869**	$ **36**	**232,546**	$ **(428,985)**	$ **(5,452)**	$ **(201,854)**

The accompanying notes are an integral part of the financial statements.

(Tabular data in thousands, except par value and per share data)

1. Nature of Activities and Summary of Significant Accounting Policies

Nature of Activities. These consolidated financial statements include the accounts of Aemetis, Inc. (formerly AE Biofuels, Inc.), a Delaware corporation, and its wholly owned subsidiaries (collectively, "Aemetis" or the "Company"):

- Aemetis Americas, Inc., a Delaware corporation, and its subsidiary AE Biofuels, Inc., a Delaware corporation;
- Aemetis International, Inc., a Nevada corporation, and its subsidiary International Biofuels, Ltd., a Mauritius corporation, and its subsidiary Universal Biofuels Private, Ltd, an India company;
- Aemetis Technologies, Inc., a Delaware corporation;
- Aemetis Biofuels, Inc., a Delaware corporation, and its subsidiary Energy Enzymes, Inc., a Delaware corporation;
- AE Advanced Fuels, Inc., a Delaware corporation, and its subsidiaries Aemetis Advanced Fuels Keyes, Inc., a Delaware corporation, and Aemetis Facility Keyes, Inc., a Delaware corporation, Aemetis Property Keyes, Inc., a Delaware corporation;
- Aemetis Advanced Fuels, Inc., a Nevada corporation;
- Aemetis Advanced Products Keyes, Inc., a Delaware corporation and its subsidiaries Aemetis Properties Riverbank, Inc., a Delaware corporation, Aemetis Health Products, Inc., a Delaware corporation; Aemetis Riverbank, Inc., a Delaware corporation, and its subsidiary Aemetis Advanced Products Riverbank, Inc., a Delaware corporation;
- Aemetis Advanced Biorefinery Keyes, Inc., a Delaware corporation;
- Aemetis Carbon Capture, Inc. a Nevada corporation;
- Aemetis Biogas LLC, a Delaware Limited Liability Company and its subsidiaries Aemetis Biogas Holdings LLC, a Delaware Limited Liability Company, Aemetis Biogas Services LLC, a Delaware Limited Liability Company, Aemetis Biogas 1 LLC, a Delaware Limited Liability Company, Aemetis Biogas 2 LLC, a Delaware Limited Liability Company, Aemetis Biogas 3 LLC, a Delaware Limited Liability Company, and Aemetis Biogas 4 LLC, a Delaware Limited Liability Company; and
- Goodland Advanced Fuels, Inc., a Nevada corporation.

Founded in 2006 and headquartered in Cupertino, California, Aemetis, Inc. (collectively with its subsidiaries on a consolidated basis referred to herein as, "Aemetis," the "Company," "we," "our" or "us") is an international renewable natural gas and renewable fuels company focused on the acquisition, development and commercialization of innovative negative carbon intensity products and technologies that replace traditional petroleum-based products. We operate in three reportable segments consisting of "California Ethanol," "California Dairy Renewable Natural Gas," and "India Biodiesel." We have other operating segments determined *not* to be reportable segments and are collectively represented by the "All Other" category. At Aemetis, our mission is to generate sustainable and innovative renewable fuel solutions that benefit communities and restore our environment. We do this by building a local circular bioeconomy utilizing agricultural waste to produce low carbon, advanced renewable fuels that reduce greenhouse gas ("GHG") emissions and improve air quality by replacing traditional petroleum-based products.

Our California Ethanol segment consists of a 65 million gallon per year capacity ethanol production facility located in Keyes, California (the "Keyes Plant") that we own and operate. In addition to low carbon renewable fuel ethanol, the Keyes Plant produces Wet Distillers Grains ("WDG"), Distillers Corn Oil ("DCO"), Carbon Dioxide ("CO2") and Condensed Distillers Solubles ("CDS"), all of which are sold as animal feed to local dairies and feedlots, with CO_2 sold to food, beverage, and industrial customers. We have several energy efficiency initiatives focused on significantly lowering the carbon intensity of our fuels. In the third quarter of 2022, a ZEBREX™ ethanol dehydration system completed installation and began commissioning, a key first step in the electrification of the Keyes Plant, which will significantly reduce the use of petroleum-based natural gas as process energy.

Our California Dairy Renewable Natural segment Aemetis Biogas" or "ABGL," constructs and operates bio-methane anaerobic digesters at local dairies near the Keyes Plant (many of whom also purchase WDG produced by the Keyes Plant as animal feed); transports the biogas via pipeline to the Keyes Plant site; converts the biogas to Renewable Natural Gas ("RNG") which is then delivered to customers through the PG&E natural gas pipeline.

The Aemetis Biogas network includes the Aemetis Biogas Central Dairy Project which operates 40 miles of completed biogas pipeline; four operating dairy digesters; five dairy digesters that are under construction; a centralized biogas-to-RNG conversion facility located at the Keyes Plant site; and a renewable natural gas interconnection with the PG&E utility gas pipeline.

The dairy digesters are connected via an underground, private, owned by ABGL, pipeline to a gas cleanup and compression unit at the Keyes Plant to produce dairy renewable natural gas ("RNG"). Upon receiving the bio-methane from the dairies, impurities are removed, and the bio-methane is converted to negative carbon intensity RNG that is injected into the statewide PG&E gas utility pipeline for use as transportation fuel or used as renewable process energy at the Keyes Plant.

Our India Biodiesel segment owns and operates a plant in Kakinada, India (“Kakinada Plant”) with a nameplate capacity of 150 thousand metric tons per year, or about 50 million gallons per year, producing high quality distilled biodiesel and refined glycerin for customers in India and Europe. We believe the Kakinada Plant is one of the largest biodiesel production facilities in India on a nameplate capacity basis. Kakinada Plant is capable of processing a variety of vegetable oils and animal fat waste feedstocks into biodiesel that meets international product standards. Our Kakinada Plant can also distill the crude glycerin byproduct from the biodiesel refining process into refined glycerin, which is sold to the pharmaceutical, personal care, paint, adhesive, and other industries.

Our All Other segment consists of: Carbon Zero biofuels production plants to produce renewable diesel and sustainable aviation fuel; Carbon Capture and Sequestration compression system and injection wells; a research and development facility in Minneapolis, Minnesota; and our corporate offices in Cupertino, California.

Our Carbon Zero biofuels production plants are designed to produce low or negative carbon intensity sustainable aviation fuel (“SAF”) and renewable diesel fuel (“RD”) utilizing low carbon hydroelectric electricity, renewable hydrogen and non-edible renewable oils sourced from existing Aemetis biofuels plants and other sources. The first Carbon Zero plant is scheduled to be built in Riverbank, California at the 125-acre former Riverbank Army ammunition plant. The Riverbank plant is expected to utilize zero carbon hydroelectric and other renewable power available onsite to produce SAF, RD, and other byproducts.

Our Carbon Capture subsidiary was established to build Carbon Capture and Sequestration (“CCS”) projects that generate LCFS and IRS 45Q tax credits by compressing and injecting CO_2 into deep wells which are monitored for emissions to ensure the long-term sequestration of carbon underground. In July 2022, Aemetis purchased 24 acres located on the Riverbank Industrial Complex site in Riverbank, California to develop a CCS injection well.

Basis of Presentation and Consolidation. These consolidated financial statements include the accounts of Aemetis. Additionally, we consolidate all entities in which we have a controlling financial interest. A controlling financial interest is usually obtained through ownership of a majority of the voting interests. However, an enterprise must consolidate a variable interest entity (“VIE”) if the enterprise is the primary beneficiary of the VIE, even if the enterprise does not own a majority of the voting interests. The primary beneficiary is the party that has both the power to direct the activities of the VIE that most significantly impact the VIE’s economic performance, and the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE. ABGL was assessed to be a VIE and through the Company's ownership interest in all of the outstanding common stock, the Company has been determined to be the primary beneficiary and accordingly, the assets, liabilities, and operations of ABGL are consolidated into those of the Company.

All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates. The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and revenues and expenses during the reporting period. To the extent there are material differences between these estimates and actual results, the Company’s consolidated financial statements will be affected.

Revenue Recognition. We derive revenue primarily from sales of ethanol and related co-products in California Ethanol, renewable natural gas for California Dairy Renewable Natural Gas, and biodiesel in India Biodiesel pursuant to supply agreements and purchase order contracts. We assessed the following criteria under the ASC 606 guidance: (i) identify the contracts with customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations, and (v) recognize revenue when the entity satisfies the performance obligations.

California Ethanol: On May 13, 2020, we entered into an amendment to the Corn Procurement and Working Capital Agreement with J.D. Heiskell (the “Corn Procurement and Working Capital”), under the terms of which we buy all corn from J.D. Heiskell and sell all WDG and corn oil we produce to J.D. Heiskell. Following May 13, 2020 and until October, 2021, we sold the majority of our fuel ethanol production to one customer, Kinergy Marketing, LLC (“Kinergy”), through individual sales transactions. We terminated the Ethanol Marketing Agreement with Kinergy as of September 30, 2021. Effective October 1, 2021, we entered into Fuel Ethanol Purchase and Sale Agreement with Murex, in which we sell all our ethanol to Murex. Given the similarity of the individual sales transactions with Kinergy and Murex, we have assessed them as a portfolio of similar contracts. The performance obligation is satisfied by delivery of the physical product to one of our customer’s contracted trucking companies. Upon delivery, the customer has the ability to direct the use of the product and receive substantially all of its benefits. The transaction price is determined based on daily market prices negotiated by Kinergy and Murex for ethanol and by our marketing partner A.L. Gilbert Company (“A.L. Gilbert”) for WDG. The transaction price is allocated to *one* performance obligation.

(Tabular data in thousands, except par value and per share data)

The below table shows our sales in California Ethanol by product category:

California Ethanol	For the twelve months ended December 31, 2022	2021
Ethanol sales	$ 165,876	$ 162,428
Wet distiller's grains sales	50,930	41,476
Other sales	11,388	7,347
	$ 228,194	$ 211,251

We have elected to adopt the practical expedient that allows for excluding the significant financing component of a contract when estimating the transaction price when the transfer of promised goods to the customer and customer payment for such goods are expected to be within one year of contract inception. Further, we have elected to adopt the practical expedient in which incremental costs of obtaining a contract are expensed when the amortization period would otherwise be less than one year.

We also assessed principal versus agent criteria as we buy our feedstock from our customers and process and sell finished goods to those customers in some contractual agreements.

For our California Ethanol segment, we buy corn as feedstock for the production of ethanol, from our working capital partner J.D. Heiskell. Prior to May 13, 2020, we sold all our ethanol, WDG, and corn oil to J.D. Heiskell and we bought all our corn to process into ethanol from J.D. Heiskell. After May 13, 2020, we sold most of our fuel ethanol to one customer, Kinergy, and sold all WDG and corn oil to J.D. Heiskell. During the second quarter of 2021, we signed a biofuels offtake agreement with Murex, and beginning on October 1, 2021 we sold all our fuel ethanol to Murex. We only have customer relationships with Kinergy and Murex, hence the principal and agent criteria are not applied. However, we are still buying corn and selling WDG and corn oil to J.D. Heiskell. We analyzed the principal versus agent relationship criteria below.

We consider the purchase of corn as a cost of goods sold and the sale of WDG and, corn oil, upon trucks leaving the Keyes Plant, as revenue on the basis that (i) we control and bear the risk of gain or loss on the processing of corn which is purchased at market prices into ethanol and (ii) we have legal title to the goods during the processing time. The pricing for both WDG and corn oil is set independently. Revenues from WDG and corn oil are billed net of the related transportation and marketing charges. The transportation component is accounted for in cost of goods sold and the marketing component is accounted for in sales, general and administrative expense. Transportation and marketing charges are known within days of the transaction and are recorded at the actual amounts. We have elected an accounting policy under which these charges have been treated as fulfillment activities provided after control has transferred. As a result, these charges are recognized in cost of goods sold and selling, general and administrative expenses, respectively, when revenue is recognized. Revenues are recorded at the gross invoiced amount. Hence, we are the principal in California Ethanol segment where our customer and vendor may be the same.

(Tabular data in thousands, except par value and per share data)

California Dairy Renewable Natural Gas: In December 2018, we utilized our relationships with California's Central Valley dairy farmers by signing leases and raising funds to construct dairy digesters, a 40 mile pipeline, a centralized biogas cleanup and a renewable natural gas interconnection with PG&E pipeline. We are currently producing RNG from four digesters connected to 40 miles of pipeline, then flowing this gas to our RNG cleanup hub and delivering the gas through an interconnect to the PG&E pipeline at the Keyes Plant. The RNG upgrade unit at the Keyes Plant is designed deliver utility-grade RNG for sale as transportation fuel to California customers via pipeline delivery.

In addition to the existing and operating dairy digesters, we currently have five additional dairy digesters that are under construction. We have 30 signed agreements with dairies to construct dairy digesters. Our revenue development strategy for the Dairy Renewable Natural Gas segment relies upon continuing to collect bio-methane gas from the existing dairy digesters, continuing to build out the network of dairy digesters, extending the pipeline in Northern California to grow the supply of RNG available for sale and utilizing the biogas-to-RNG upgrade unit to distribute utility-grade RNG to customers statewide. We plan to store the RNG until the LCFS credit pathway for each dairy has been established, after which we will sell the stored gas by delivering it into the utility gas pipeline.

India Biodiesel: We sell products pursuant to purchase orders (written or verbal) or by contract with governmental or international parties, in which performance is satisfied by delivery and acceptance of the physical product. Given that the contracts are sufficiently similar in nature, we have assessed these contracts as a portfolio of similar contracts as allowed under the practical expedient. Doing so does not result in a materially different outcome compared to individually accounting for each contract. All domestic and international deliveries are subject to certain specifications as identified in contracts. The transaction price is determined daily based on reference market prices for biodiesel, refined glycerin, and PFAD net of taxes. Transaction price is allocated to one performance obligation.

The below table shows our sales in India by product category:

India Biodiesel	**For the twelve months ended December 31,**	
	2022	**2021**
Biodiesel sales	$ 27,041	$ 465
Other sales	1,070	231
	$ 28,111	$ 696

In India, we also assessed principal versus agent criteria as we buy our feedstock from our customers and process and sell finished goods to those same customers in certain contractual agreements. In those cases, we receive the legal title to feedstock from our customers once it is on our premises. We control the processing and production of biodiesel based on contract terms and specifications. The pricing for both feedstock and biodiesel is set independently. We hold the title and risk to biodiesel according to agreements we enter into in these situations. Hence, we are the principal in India Biodiesel sales scenarios where our customer and vendor may be the same.

Cost of Goods Sold. Cost of goods sold includes those costs directly associated with the production of revenues, such as raw material consumed, factory overhead and other direct production costs. During periods of idle plant capacity, costs otherwise charged to cost of goods sold are reclassified to selling, general and administrative expense. The company recorded, in cost of goods sold, in the years ended December 31, 2022 and 2021, approximately $0.3 million and $5.0 million related to our California triennial obligation on GHG emissions. During 2021, we included approximately $3.2 million that relates to periods prior to 2021 and is considered insignificant.

Shipping and Handling Costs. Shipping and handling costs are classified as a component of cost of goods sold in the accompanying consolidated statements of operations.

Research and Development. Research and development costs are expensed as incurred, unless they have alternative future uses to the Company.

Cash, Cash Equivalents, and Restricted Cash. The Company considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. The Company maintains cash balances at various financial institutions domestically and abroad. The Federal Deposit Insurance Corporation insures domestic cash accounts. The Company's accounts at these institutions may at times exceed federally insured limits. The Company has not experienced any losses in such accounts. Amounts included in restricted cash represent those required to be set aside by the Construction Loan Agreement with Greater Nevada Credit Union ("GNCU") and will be released upon approval by GNCU.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Consolidated Balance Sheet to the total of the same such amounts shown in the statement of cash flows

	As of	
	December 31, 2022	**December 31, 2021**
Cash and cash equivalents	$ 4,313	$ 7,751
Restricted cash included in other current assets	725	-
Restricted cash included in other assets	1,961	-
Total cash, cash equivalents, and restricted cash shown in the statement of cash flows	$ 6,999	$ 7,751

Accounts Receivable. The Company sells ethanol and WDG through third-party marketing arrangements generally without requiring collateral directly to customers on a variety of terms including advanced payment terms, based on the size and creditworthiness of the customer. DCO is marketed and sold to A.L. Gilbert under the J.D. Heiskell Purchasing Agreement. The Company sells CDS directly to customers on standard 30 day payment terms. The Company sells biodiesel, glycerin, and processed natural oils to a variety of customers and may require advanced payment based on the size and creditworthiness of the customer. Usually, invoices are due within 30 days on net terms. Accounts receivables mostly consist of product sales made to large creditworthy customers. Trade accounts receivable are presented at original invoice amount, net of any allowance for doubtful accounts.

The Company maintains an allowance for doubtful accounts for balances that appear to have specific collection issues and estimates an allowance for expected credit losses. The collection process is based on the age of the invoice and requires attempted contacts with the customer at specified intervals. If, after a specified number of days, the Company has been unsuccessful in its collection efforts, a bad debt allowance is recorded for the balance in question. Delinquent accounts receivables are charged against the allowance for doubtful accounts once un-collectability has been determined. The factors considered in reaching this determination are the apparent financial condition of the customer and the Company's success in contacting and negotiating with the customer. If the financial condition of the Company's customers were to deteriorate, additional allowances may be required. We reserved $1.4 million in the allowance for doubtful accounts as of December 31, 2021 and wrote off the balances as uncollectible during the second quarter of 2022.

Inventories. Finished goods, raw materials, and work-in-process inventories are valued using methods which approximate the lower of cost (first-in, first-out) or net realizable value (NRV). Distillers' grains and related products are stated at NRV. In the valuation of inventories, NRV is determined as estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The company periodically reviews the value of items in inventory and provides write-downs or write-offs of inventory based on its assessment of market conditions. Write-downs and write-offs are charged to cost of goods sold.

Variable Interest Entities. We determine at the inception of each arrangement whether an entity in which we have made an investment or in which we have other variable interests in is considered a variable interest entity (VIE). We consolidate VIEs when we are the primary beneficiary. The primary beneficiary of a VIE is the party that meets both of the following criteria: (1) has the power to make decisions that most significantly affect the economic performance of the VIE; and (2) has the obligation to absorb losses or the right to receive benefits that in either case could potentially be significant to the VIE. Periodically, we assess whether any changes in our interest or relationship with the entity affect our determination of whether the entity is still a VIE and, if so, whether we are the primary beneficiary. If we are not the primary beneficiary in a VIE, we account for the investment or other variable interests in a VIE in accordance with applicable GAAP.

Property, Plant and Equipment. Property, plant, and equipment are carried at cost less accumulated depreciation after assets are placed in service and are comprised primarily of buildings, furniture, machinery, equipment, land, biogas dairy digesters, and the Keyes Plant, Goodland Plant and Kakinada Plant. It is the Company's policy to depreciate capital assets over their estimated useful lives using the straight-line method.

The Company evaluates the recoverability of long-lived assets with finite lives in accordance with ASC Subtopic 360-10-35 *Property Plant and Equipment –Subsequent Measurement,* which requires recognition of impairment of long-lived assets whenever events or changes in circumstances indicate that the carrying amount of asset groups may not be recoverable. When events or changes in circumstances indicate that the carrying amount of an asset group may not be recoverable, based on estimated undiscounted cash flows, the impairment loss would be measured as the difference between the carrying amount of the asset group and its estimated fair value. The Company has not recorded any impairment as of December 31, 2022 and 2021.

California Energy Commission Low-Carbon Fuel Production Program. The Company has been awarded $4.2 million in matching grants from the California Energy Commission Low-Carbon Fuel Production Program ("LCFPP"). The LCFPP grant reimburses the Company for costs to design, procure, and install processing facility to clean-up, measure and verify negative-carbon intensity dairy renewable natural gas fuel at the production facility in Keyes, California. The Company has received $3.8 million from the LCFPP as of December 31, 2022, as reimbursement for actual costs incurred. Due to the uncertainty associated with the approval process under the grant program, the Company recognized the grant as a reduction of costs in the period when payment is received.

California Department of Food and Agriculture Dairy Digester Research and Development Grant. In 2019, the Company was awarded $3.2 million in matching grants from the California Department of Food and Agriculture ("CDFA") Dairy Digester Research and Development program. The CDFA grant reimburses the Company for costs required to permit and construct two of the Company's biogas capture systems under contract with central California dairies. The Company received all the awarded grant proceeds as of the second quarter of 2021.

In October 2020, the Company was awarded $7.8 million in matching grants from the CDFA Dairy Digester Research and Development program. The CDFA grant reimburses the Company for costs required to permit and construct six of the Company's biogas capture systems under contract with central California dairies. The Company has received $2.4 million from the CDFA 2020 grant program as of December 31, 2022, as reimbursement for actual costs incurred. Due to the uncertainty associated with the approval process under the grant program, the Company recognized the grant as a reduction of costs in the period when payment is received.

California Energy Commission Low Carbon Advanced Ethanol Grant Program. In May 2019, the Company was awarded the right to receive reimbursements from the California Energy Commission Community-Scale and Commercial-Scale Advanced Biofuels Production Facilities grant under the Alternative and Renewable Fuel and Vehicle Technology Program in an amount up to $5.0 million (the "CEC Reimbursement Program") in connection with the Company's expenditures toward the development of the Riverbank Cellulosic Ethanol Facility. To comply with the guidelines of the CEC Reimbursement Program, the Company must make a minimum of $7.9 million in matching contributions to the Riverbank project. The Company receives funds under the CEC Reimbursement Program for actual expenses incurred up to $5.0 million as long as the Company makes the minimum matching contribution. Given that the Company has not made the minimum matching contribution, the grant for reimbursement of capital expenditures of $1.7 million is presented with long-term liabilities as of December 31, 2022 and 2021. Due to the uncertainty associated with meeting the minimum matching contribution, the reimbursement will be recognized when the Company makes the minimum matching contribution.

U.S. Department of Food and Agriculture Forest Service Grant. Aemetis Advanced Products Keyes ("AAPK") has been awarded $245 thousand in matching grants from the U.S. Department of Food and Agriculture Forest Service ("US Forest Service") under the Wood Innovation and Community Wood program. The grant reimburses the Company for continued development of technologies and processes to valorize forest waste for the production of cellulosic ethanol. AAPK has received $166 thousand from the US Forest Service as reimbursement for actual allowable program costs incurred through December 31, 2022.

California Energy Commission Grant for Solar Microgrid, DSC and Battery Backup System. Aemetis Advanced Fuels Keyes ("AAFK") has been awarded an $8.0 million grant to design, construct and commission a grid-connected 1.56 MW photovoltaic microgrid and 1.25MW/2.5MWh Battery Energy Storage System integrated with an artificial intelligence-driven distributed control system (DCS). The grant requires $1.6 million in matching contribution in which the Company has made. AAFK received $3.9 million in grant funds from this program as reimbursement for actual expenditures incurred through December 31, 2022. Due to the uncertainty associated with the approval process under the grant program, the Company recognized the grant as a reduction of costs in the period when payment is received.

California Department of Forestry and Fire Protection Grant. AAPK has been awarded $2 million in matching grants from the CAL FIRE Business and Workforce Development Grant Program ("CAL Fire") in May 2022. This CAL Fire grant program reimburses AAPK for costs to design, construct, and commission a 2 million gallon per year cellulosic ethanol facility that will convert conifer biomass from forested regions of the Sierra Nevada into an ultra-low carbon biofuel derived from 100% forest biomass ("CAL Fire Conversion Program"). AAPK must contribute $5.8 million in cost share contributions to the project to receive grant proceeds. AAPK has received no grant funds from the CAL Fire Conversion Program as reimbursement for actual costs through December 31, 2022.

California Department of Forestry and Fire Protection Grant. AAPK has been awarded $500 thousand in grants from CAL Fire in May 2022. This CAL Fire grant program reimburses AAPK for costs to advance a new-to-the world technology that circumvents current limitations surrounding the extraction of cellulosic sugars by pioneering a novel route for deconstructing woody biomass using ionic liquids ("CAL Fire Extraction Program"). AAPK has received no grant funds from the CAL Fire Extraction Program as reimbursement for actual costs through December 31, 2022.

U.S Forest Service Community Wood Grant. Aemetis Advanced Products Riverbank ("AAPR") has been awarded $642 thousand in matching grants from the U.S Forest Service Wood Innovations Program ("USFS") in May 2022. The USFS grant program reimburses AAPR for costs to design, construct, and commission a plant to produce cellulosic ethanol using preliminary research and development in partnership with the Joint Bioenergy Institute (JBEI). USFS grant funds will be used to complete the FEL-3 design phase of the entire process, construct a biomass pretreatment unit to extract sugars at the Aemetis Riverbank site and ferment sugars into ethanol at the Keyes Plant. AAPR must contribute $2.4 million in cost share contributions to the project to receive grant proceeds. AAPK has received no grant funds from the USFS grant program as reimbursement for actual costs through December 31, 2022.

USDA's Biofuel Producer Program Grant. During the second quarter of 2022, a grant in the amount of $14.2 million was received from the USDA's Biofuel Producer Program, created as part of the CARES Act, to compensate biofuel producers who experienced market losses due to the COVID-19 pandemic. This was recorded in the other expense (income) section of the Consolidated Statements of Operations and Comprehensive Loss.

California Energy Commission Grant for Mechanical Vapor Recompression System. Aemetis Advanced Fuels Keyes ("AAFK") has been awarded a $6.0 million grant to design, construct and commission a mechanical vapor recompression (MVR) system. The additional evaporation stages will eliminate natural gas consumption and related greenhouse gas emissions in the evaporation portion of the process by installing metering equipment and software to monitor and optimize the plant's energy consumption. The MVR system will compress vapor to a higher pressure and temperature so that it can be recycled multiple times as steam heat in the evaporation process, which will dramatically reduce natural gas use. The grant requires $5.3 million in matching contributions. AAFK has received no grant funds from this program as reimbursement for actual expenditures incurred through December 31, 2022. Due to the uncertainty associated with the approval process under the grant program, the Company will recognize future grant proceeds received as a reduction of costs in the period when payment is received.

Pacific Gas and Electric SEM Manufacturer's Incentive Program. During the fourth quarter of 2022, AAFK received $374 thousand in PG&E SEM Incentive Program reimbursements for installing more efficient beer feed heat exchangers. Third party consultants verified the reduction in natural gas usages from the new heat exchangers to obtain the incentive program funds.

Income Taxes. The Company recognizes income taxes in accordance with ASC 740 *Income Taxes* using an asset and liability approach. This approach requires the recognition of taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the Company's consolidated financial statements or tax returns. The measurement of current and deferred taxes is based on provisions of enacted tax law.

ASC 740 provides for recognition of deferred tax assets if the realization of such assets is more likely than not to occur. Otherwise, a valuation allowance is established for the deferred tax assets, which may not be realized. As of December 31, 2022 and 2021, the Company recorded a full valuation allowance against its U.S. federal and state net deferred tax assets due to operating losses incurred since inception. Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets were fully offset by a valuation allowance.

The Company is subject to income tax audits by the respective tax authorities in all of the jurisdictions in which it operates. The determination of tax liabilities in each of these jurisdictions requires the interpretation and application of complex and sometimes uncertain tax laws and regulations. The recognition and measurement of current taxes payable or refundable and deferred tax assets and liabilities requires that the Company make certain estimates and judgments. Changes to these estimates or a change in judgment may have a material impact on the Company's tax provision in a future period.

In 2018, the Company adopted certain tax accounting policies related to the new global intangible low-taxed income ("GILTI") provisions under the Tax Cuts and Jobs Act such that the Company will: (1) account for all GILTI related book-tax differences as period costs and (2) use the Incremental Cash Tax Savings approach in evaluating its valuation allowance assessment related to the GILTI inclusion.

Basic and Diluted Net Income (Loss) per Share. Basic net income (loss) per share is computed by dividing net income or loss attributable to common shareholders by the weighted average number of common shares outstanding for the period. Diluted net income (loss) per share reflects the dilution of common stock equivalents such as options, convertible preferred stock, debt and warrants to the extent the impact is dilutive. As the Company incurred a net loss for the years ended December 31, 2022 and 2021, potentially dilutive securities have been excluded from the diluted net loss per share computations as their effect would be anti-dilutive.

(Tabular data in thousands, except par value and per share data)

The following table shows the number of potentially dilutive shares excluded from the diluted net loss per share calculation as of December 31, 2022 and 2021:

	As of	
	December 31, 2022	December 31, 2021
Series B preferred (post split basis)	127	128
Common stock options and warrants	5,050	3,819
Debt with conversion feature at $30 per share of common stock	1,240	1,220
Total number of potentially dilutive shares excluded from the diluted net (loss) per share calculation	6,417	5,167

Comprehensive Loss. ASC 220 *Comprehensive Income* requires that an enterprise report, by major components and as a single total, the change in its net assets from non-owner sources. The Company's other comprehensive loss and accumulated other comprehensive loss consists solely of cumulative currency translation adjustments resulting from the translation of the financial statements of its foreign subsidiary. The investment in this subsidiary is considered indefinitely invested overseas, and as a result, deferred income taxes are not recorded related to the currency translation adjustments.

Foreign Currency Translation/Transactions. Assets and liabilities of the Company's non-U.S. subsidiary that operates in a local currency environment, where that local currency is the functional currency, are translated into U.S. dollars at exchange rates in effect at the balance sheet date and the resulting translation adjustments directly recorded to a separate component of accumulated other comprehensive loss. Income and expense accounts are translated at average exchange rates during the year. Transactional gains and losses from foreign currency transactions are recorded in other (income) loss, net.

Segments. Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company further evaluates its operating segments to determine its reportable segments. Aemetis recognizes three reportable segments "California Ethanol", "California Dairy Renewable Natural Gas", and "India Biodiesel."

The "California Ethanol" reportable segment includes the Company's 65 million gallon per year ethanol plant in Keyes, California, and the adjacent land leased for the production of CO_2.

The "California Dairy Renewable Natural Gas" reportable segment includes, the dairy digesters, pipeline and gas condition unit for the production of biogas from dairies near Keyes, California.

The "India Biodiesel" reportable segment includes the Company's 50 million gallon per year nameplate capacity biodiesel manufacturing Kakinada Plant, the administrative offices in Hyderabad, India, and the holding companies in Nevada and Mauritius. The Company's biodiesel is marketed and sold primarily to customers in India through brokers and by the Company directly.

The Company has additional operating segments that were determined not to be reportable segments, including the Carbon Zero facility in Riverbank, the Goodland Plant, Kansas and the research and development facility in Minnesota. Refer to the "All Other" category.

Fair Value of Financial Instruments. Financial instruments include accounts receivable, accounts payable, accrued liabilities, current and non-current portion of subordinated debt, notes payable, Series A preferred units, and long-term debt. Due to the unique terms of our notes payable and long-term debt and the financial condition of the Company, the fair value of the debt is not readily determinable. The fair value determined using level 3 inputs, of all other current financial instruments is estimated to approximate carrying value due to the short-term nature of these instruments.

Share-Based Compensation. The Company recognizes share based compensation expense in accordance with ASC 718 *Stock Compensation* requiring the Company to recognize expenses related to the estimated fair value of the Company's share-based compensation awards over the vesting period, adjusted to reflect only those shares that are expected to vest.

Commitments and Contingencies. The Company records and/or discloses commitments and contingencies in accordance with ASC 450 *Contingencies*. ASC 450 applies to an existing condition, situation, or set of circumstances involving uncertainty as to possible loss that will ultimately be resolved when one or more future events occur or fail to occur.

(Tabular data in thousands, except par value and per share data)

Convertible Instruments. The Company evaluates the impacts of convertible instruments based on the underlying conversion features. Convertible Instruments are evaluated for treatment as derivatives that could be bifurcated and recorded separately.

Debt Issuance Costs. The Company records debt issuance costs related to specific incremental costs directly attributable to issuing, modifying, or extending a debt instrument. The debt issuance costs are reported as an adjustment to the carrying amount of the debt. The debt issuance costs are amortized using the interest rate method over the life of the debt instrument.

Troubled Debt Restructuring Accounting. The evaluation for troubled debt restructuring includes assessing whether the creditor granted a concession. To determine this, we calculate the post-restructuring effective interest rate by projecting cash flows on the new terms and calculating a discount rate equal to the carrying amount of pre-restructuring debt, and comparing this calculation to the terms of prior amendments. If the post restructuring effective interest rate is less than the prior terms effective interest rate, we assess this as having been granted a concession. We then apply troubled debt restructuring accounting to any debt in which the creditor granted a concession.

Debt Modification Accounting. The Company evaluates amendments to its debt in accordance with ASC 540-50 *Debt – Modification and Extinguishments* for modification and extinguishment accounting. This evaluation includes comparing the net present value of cash flows of the new debt to the old debt to determine if changes greater than 10 percent occurred. In instances where the net present value of future cash flows changed more than 10 percent, the Company applies extinguishment accounting and determines the fair value of its debt based on factors available to the Company.

Recently Adopted Accounting Pronouncements.

ASU 2021-10: Government Assistance (Topic 832): Disclosure by Business Entities about Government Assistance. This ASU provides increased transparency by requiring business entities to disclose information about certain types of government assistance they receive in the notes to the financial statements. During 2022, we adopted ASU No. 2021-10, Government Assistance, refer to footnote 1 for the updated disclosures.

2. Inventories

Inventories consist of the following:

	As of	
	December 31, 2022	December 31, 2021
Raw materials	$ 2,971	$ 727
Work-in-progress	127	2,083
Finished goods	1,560	2,316
Total inventories	$ 4,658	$ 5,126

As of December 31, 2022 and December 31, 2021, the Company recognized a lower of cost or net realizable value of $0.1 million and none respectively, related to inventory.

(Tabular data in thousands, except par value and per share data)

3. Property, Plant and Equipment

Property, plant and equipment consist of the following:

	As of	
	December 31, 2022	December 31, 2021
Land	$ 7,344	$ 4,082
Plant and buildings	99,116	97,110
Furniture and fixtures	1,831	1,334
Machinery and equipment	15,209	5,294
Tenant improvements	56	-
Construction in progress	88,934	55,859
Property held for development	15,437	15,437
Finance lease right of use assets	3,045	2,317
Total gross property, plant & equipment	230,972	181,433
Less accumulated depreciation	(50,531)	(46,332)
Total net property, plant & equipment	$ 180,441	$ 135,101

Interest capitalized in property, plant, and equipment was $11.1 million and $4.7 million for the years ended December 31, 2022 and 2021, respectively.

Construction in progress includes costs for the biogas construction projects (dairy digesters and pipeline), Riverbank projects (sustainable aviation fuel and renewable diesel plant as well as carbon capture characterization well), and energy efficiency projects at the Keyes Plant. Property held for developed is the partially completed Goodland Plant is not ready for operation. Depreciation will begin for each project when the project is finalized and placed into service. Depreciation on the components of property, plant and equipment is calculated using the straight-line method to allocate their depreciable amounts over their estimated useful lives as follows:

	Years
Plant and buildings	20 - 30
Machinery and equipment	5 - 15
Furniture and fixtures	3 - 5

The Company recorded depreciation expense of approximately $5.5 million and $5.4 million respectively, for the years ended December 31, 2022 and 2021.

(Tabular data in thousands, except par value and per share data)

4. Debt

Debt consists of the notes from the Company's senior lender, Third Eye Capital, acting as Agent for the Purchasers (Third Eye Capital), other working capital lenders and subordinated lenders as follows:

	December 31, 2022	December 31, 2021
Third Eye Capital term notes	$ 7,141	$ 7,095
Third Eye Capital revolving credit facility	60,602	75,980
Third Eye Capital revenue participation term notes	11,963	11,915
Third Eye Capital acquisition term notes	26,578	26,461
Third Eye Capital Fuels Revolving Line	27,410	-
Third Eye Capital Carbon Revolving Line	22,710	-
Construction Loan	19,820	-
Cilion shareholder seller notes payable	6,821	6,619
Subordinated notes	15,931	14,304
EB-5 promissory notes	41,404	40,692
Term loans on capital expenditures	5,860	5,701
Total debt	246,240	188,767
Less current portion of debt	49,219	22,778
Total long term debt	$ 197,021	$ 165,989

<u>Third Eye Capital Note Purchase Agreement</u>

On July 6, 2012, Aemetis, Inc. and Aemetis Advanced Fuels Keyes, Inc. ("AAFK"), entered into an Amended and Restated Note Purchase Agreement with Third Eye Capital (the "Note Purchase Agreement"). Pursuant to the Note Purchase Agreement, Third Eye Capital extended credit in the form of (i) senior secured term loans in an aggregate principal amount of approximately $7.2 million to replace existing notes held by Third Eye Capital (the "Term Notes"); (ii) senior secured revolving loans in an aggregate principal amount of $18.0 million (the "Revolving Credit Facility"); (iii) senior secured term loans in the principal amount of $10.0 million to convert the prior revenue participation agreement to a note (the "Revenue Participation Term Notes"); and (iv) senior secured term loans in an aggregate principal amount of $15.0 million (the "Acquisition Term Notes") used to fund the cash portion of the acquisition of Cilion, Inc. (the Term Notes, Revolving Credit Facility, Revenue Participation Term Notes and Acquisition Term Notes are referred to herein collectively as the "Original Third Eye Capital Notes").

On February 27, 2019, a promissory note (the “February 2019 Note”, together with the Original Third Eye Capital Notes, the “Third Eye Capital Notes”) for $2.1 million was advanced by Third Eye Capital to Aemetis, Inc., as a short-term credit facility for working capital and other general corporate purposes with an interest rate of 14% per annum maturing on the earlier of (a) receipt of proceeds from any financing, refinancing, or other similar transaction, (b) extension of credit by payee, as lender or as agent on behalf of certain lenders, to the Company or its affiliates, or (c) April 30, 2019. In consideration of the February 2019 Note, $0.1 million of the total proceeds were paid to Third Eye Capital as financing charges. On April 30, 2019, the February 2019 Note was modified to remove the stated maturity date and instead be due on demand by Third Eye Capital. In third quarter of 2019, the February 2019 Note was modified to include additional borrowings of $0.7 million. In first quarter of 2020, the February 2019 Note was modified to include additional borrowings of $0.6 million. The February 2019 note was fully repaid in the first quarter of 2021.

On March 14, 2021, Third Eye Capital agreed to Limited Waiver and Amendment No. 19 to the Note Purchase Agreement (“Amendment No. 19”), to (i) provide for a waiver of the ratio of note indebtedness covenant for the quarter ended December 31, 2021, (ii) provide for a waiver of the consolidated unfunded capital expenditures covenant for the quarters through March 31, 2021. As consideration for such amendment and waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million in cash (the “Amendment No. 19 Fee”). We gave the notice to extend the maturity date of the Notes to April 1, 2022 and the extension fee equal to 1% of the Note Indebtedness in respect to each Note, provided that half of such fee may be added to the outstanding principal balance of each Note on the effective date of each such extension and rest of the balance may be payable in cash or common stock within 60 days of the date of such relevant extension. We evaluated the terms of the Amendment No. 19 and the maturity date extension and applied modification accounting treatment in accordance with ASC 470-50 Debt – Modification and Extinguishment.

On August 9, 2021, Third Eye Capital agreed to the Limited Waiver and Amendment No. 20 to the Note Purchase Agreement (“Amendment No. 20”) to: (i) provide that, upon written notice to Third Eye Capital, the maturity date may be further extended to April 1, 2023 in exchange for an extension fee equal to 1% of the Note Indebtedness in respect of each Note, where half of such fee may be added to the outstanding principal balance of each Note on the effective date of each such extension; (ii) provide for a waiver of the ratio of note indebtedness covenant for the quarters ended March 31, 2022, June 30, 2022, September 30, 2022 and December 31, 2022; and (iii) provide for a waiver of the unfunded capital expenditures covenant for the quarter ended June 30, 2021 in which the Company exceeded the $100,000 capital expenditures limit. As consideration for such amendment and waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.3 million in cash. We evaluated the terms of the Amendment No.20 and applied modification accounting treatment in accordance with ASC 470-50 Debt – Modification and Extinguishment.

On November 5, 2021, Third Eye Capital agreed to the Limited Waiver and Amendment No. 21 to the Note Purchase Agreement (“Amendment No. 21”) to: (i) provide a waiver for the Blocked Account Agreement Violation in which the Borrowers failed to deliver Blocked Account Control Agreements by August 31, 2021 and (ii) provide for a waiver for the Subordinated Debt Violation, in which the Company made a repayment to a Subordinated Debt lender. As consideration for such amendment and waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million in cash. We evaluated the terms of the Amendment No.21 and applied modification accounting treatment in accordance with ASC 470-50 Debt – Modification and Extinguishment.

On March 8, 2022, Third Eye Capital agreed to the Limited Waiver and Amendment No. 22 to the Note Purchase Agreement (“Amendment No. 22”) to: (i) provide a waiver for the Blocked Account Agreement Violation in which the Borrowers failed to deliver Blocked Account Control Agreements by December 31, 2021, (ii) provide for a waiver for the Subordinated Debt Violation, in which the Company made a repayment to a Subordinated Debt lender, and (iii) provide for a waiver of the consolidated unfunded capital expenditures covenant for the quarters through December 31, 2021. As consideration for such waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million in cash.

On May 11, 2022, Third Eye Capital agreed to the Limited Waiver and Amendment No. 23 to the Note Purchase Agreement (“Amendment No. 23”) to: (i) provide a waiver for the Blocked Account Agreement Violation in which the Borrowers failed to deliver Blocked Account Control Agreements by March 31, 2022, (ii) provide for a waiver of the ratio of note indebtedness covenant for the quarter ended March 31, 2023 and (iii) provide for a waiver of the unfunded capital expenditures covenant for the quarter ended March 31, 2022 in which the Company exceeded the $100,000 capital expenditures limit. As consideration for such amendment and waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million.

On August 8th, 2022, Third Eye Capital agreed to Limited Waiver and Amendment No. 24 to the Note Purchase Agreement ("Amendment No. 24") to: (i) provide that the maturity date of the Third Eye Capital Notes may be further extended at our election to April 1, 2024 in exchange for an extension fee equal to 1% of the Note Indebtedness in respect to each Note, provided that such fee may be added to the outstanding principal balance of each Note on the effective date of each such extension, and (ii) provide for a waiver for certain covenant defaults. As consideration for such amendment and waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.3 million in cash (the "Amendment No. 24 Fee").

On March 6, 2023, Third Eye Capital agreed to the Limited Waiver and Amendment No. 25 to the Note Purchase Agreement (“Amendment No. 25”) to: provide a waiver for the Keyes Plant Minimum Quarterly Production violation for the quarter ended March 31, 2023, in which the Borrowers will not meet the 10 million gallon production requirement. As consideration for such waivers, the borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million in cash.

Amendments No. 19 through No. 25 waived certain covenants for the periods between September 30, 2022 and March 31, 2023. According to ASC 470- 10- 45 Debt–Other Presentation Matters, if it is probable that the Company will not be able to cure the default at measurement dates within the next 12 months, the related debt needs to be classified as current. To assess this guidance, the Company performed ratio and cash flow analysis using its cash flow forecast and debt levels. The Company forecasted sufficient cash flows over the next 12 months to reduce debt levels of Third Eye Capital and meet operational requirements of the Company. Based on this analysis, the Company believes that through a combination of cash flows from operations, sales from EB- 5 investments, and proceeds from the sale of common stock, it will be able to meet the ratio of the note indebtedness covenant over the next 12 months and a default within the next 12 months is not probable. As such, the notes are classified as long-term debt.

On March 6, 2020, we and a subsidiary entered into a one-year reserve liquidity facility governed by a promissory note, payable to Third Eye Capital, in the principal amount of $18 million. On March 14, 2021, Third Eye Capital agreed to increase the amount available under the reserve liquidity facility to $70.0 million. On August 9, 2021, Third Eye Capital agreed to decrease the amount available under the reserve liquidity notes governed by a promissory note to $40.0 million. On March 6, 2023, Third Eye Capital agreed to increase the amount available under the reserve liquidity note to $50 million. Borrowings under the reserve liquidity facility are available until maturity on April 1, 2024. Interest on borrowed amounts accrues at a rate of 30% per annum, paid monthly in arrears and may be capitalized and due upon maturity, or 40% if an event of default has occurred and continues. The outstanding principal balance of the indebtedness evidenced by the promissory note, plus any accrued but unpaid interest and any other sums due thereunder, shall be due and payable in full at the earlier to occur of (a) receipt by the Company or its affiliates of proceeds from any sale, merger, equity or debt financing, refinancing or other similar transaction from any third party and (b) April 1, 2024. Any amounts may be re-borrowed up to repaid amounts up until the maturity date of April 1, 2024. The promissory note is secured by liens and security interests upon the property and assets of the Company. In return, the Company will pay a non-refundable standby fee at 2% per annum of the difference between the aggregate principal amount outstanding and the commitment, payable monthly in cash. In addition, if any initial advances are drawn under the facility, the Company will pay a non-refundable one-time fee in the amount of $0.5 million provided that such fee may be added to the principal amount of the promissory note on the date of such initial advance.

<u>Terms of Third Eye Capital Notes</u>

A. ***Term Notes.*** As of December 31, 2022, the Company had $7.2 million in principal and interest outstanding under the Term Notes and $27 thousand unamortized debt issuance costs. The Term Notes accrue interest at 14% per annum. The Term Notes mature on April 1, 2023*.

B. ***Revolving Credit Facility.*** The Revolving Credit Facility accrues interest at the prime rate plus 13.75% (21.25% as of December 31, 2022), payable monthly in arrears. Interest was accrued and accrued interest from all notes can be capitalized to the Revolving Credit Facility. The Revolving Credit Facility matures on April 1, 2023*. As of December 31, 2022, AAFK had $61.6 million in principal and interest and waiver fees outstanding under the Revolving Credit Facility and $1.0 million unamortized discount issuance costs.

C. ***Revenue Participation Term Notes.*** The Revenue Participation Term Note bears interest at 5% per annum and matures on April 1, 2023*. As of December 31, 2022, AAFK had $12.0 million in principal and interest outstanding on the Revenue Participation Term Notes and $69 thousand unamortized discount issuance costs.

D. ***Acquisition Term Notes.*** The Acquisition Term Notes accrue interest at the prime rate plus 10.75% (18.25% per annum as of December 31, 2022 and mature on April 1, 2023*. As of December 31, 2022, Aemetis Facility Keyes, Inc. had $26.7 million in principal and interest and redemption fees outstanding and unamortized discount issuances costs of $144 thousand. The outstanding principal balance includes a total of $7.5 million in redemption fees on which interest is not charged.

E. ***Reserve Liquidity Notes.*** The Reserve Liquidity Notes, with available borrowing capacity in the amount of $50.0 million, accrues interest at the rate of 30% per annum and are due and payable upon the earlier of: (i) the closing of new debt or equity financings, (ii) receipt from any sale, merger, debt or equity financing, or (iii) April 1, 2024. We have no borrowings outstanding under the Reserve Liquidity Notes as of December 31, 2022.

*The note maturity date can be extended by the Company to April 2024. As a condition to any such extension, the Company would be required to pay a fee of 1% of the carrying value of the debt of which 50% can be paid in cash and 50% can be added to the outstanding debt. As a result of this ability to extend the maturity at the Company's will, the Third Eye Capital Notes are classified as non-current debt.

The Third Eye Capital Notes contain various covenants, including but not limited to, debt to plant value ratio, minimum production requirements, and restrictions on capital expenditures. The terms of the Notes allow the lender to accelerate the maturity in the event of default that could reasonably be expected to have a material adverse effect, such as any change in the business, operations, or financial condition. The Company has evaluated the likelihood of such an acceleration event and determined such an event to not be probable in the next twelve months.

The Third Eye Capital Notes are secured by first priority liens on all real and personal property of, and assignment of proceeds from all government grants and guarantees from the Company's North American subsidiaries. The Third Eye Capital Notes all contain cross-collateral and cross-default provisions. McAfee Capital, LLC ("McAfee Capital"), owned by Eric McAfee, the Company's Chairman and CEO, provided a guaranty of payment and performance secured by all of its Company shares. In addition, Eric McAfee provided a blanket lien on substantially all of his personal assets, and McAfee Capital provided a guarantee in the amount of $8.0 million.

<u>GAFI Term Loan and Revolving Loan</u>. On July 10, 2017, GAFI entered into a Note Purchase Agreement ("Note Purchase Agreement") with Third Eye Capital. Pursuant to the Note Purchase Agreement, Third Eye Capital agreed, subject to the terms and conditions of the Note Purchase Agreement and relying on each of the representations and warranties set forth therein, to make (i) a single term loan to GAFI in an aggregate amount of $15 million ("Term Loan") and (ii) revolving advances not to exceed $10 million dollars in the aggregate (the "Revolving Loans"). The interest rate applicable to the Term Loan is equal to 10% per annum. The interest rate applicable to the Revolving Loans is the greater of prime rate plus 7.75% and 12.00% per annum. The maturity date of the loans was extended to July 10, 2021 by exercising an option to extend the GAFI Loan Maturity Date for a fee of $0.5 million. The Company fully repaid the GAFI notes in the first quarter of 2021 and replaced the Note Purchase Agreement with the New Credit Facility, as described below.

<u>Third Eye Capital Revolving Credit Facility for Fuels and Carbon Lines</u>. On March 2, 2022, GAFI and Aemetis Carbon Capture, Inc. ("ACCI") entered into an Amended and Restated Credit Agreement ("Credit Agreement") with Third Eye Capital , as administrative agent and collateral agent, and the lender party thereto (the "New Credit Facility"). The New Credit Facility provides for two credit facilities with aggregate availability of up to $100 million, consisting of a revolving credit facility with GAFI for up to $50 million (the "Fuels Revolving Line") and a revolving credit facility with ACCI for up to $50 million (the "Carbon Revolving Line" and together with the Fuels Revolving Line, the "Revolving Lines"). The revolving loans made under the Fuels Revolving Line have a maturity date of March 1, 2025 and will accrue a rate of interest per annum equal to the greater of (i) the prime rate plus 6.00% and (ii) ten percent (10.0%) (13.50% per annum as of December 31, 2022, and the revolving loans made under the Carbon Revolving Line will have a maturity date of March 1, 2026 and accrue a rate of interest per annum equal to the greater of (i) the prime rate plus 4.00% and (ii) eight percent (8.0%) (11.50% per annum as of December 31, 2022. The revolving loans made under the Fuels Revolving Line are available for working capital purposes and the revolving

loans made under the Carbon Revolving Line are available for projects that reduce, capture, use or sequester carbon with the objective of reducing carbon dioxide emissions. In connection with the New Credit Facility, the Company agreed to issue to the lender under the New Credit Facility: (i) warrants entitling the lender to purchase 50,000 shares of common stock of the Company at an exercise price equal to $10.20 per share, exercisable for a five-year period from March 2, 2022; and (ii) warrants entitling holders thereof to purchase 250,000 shares of common stock of the Company, at an exercise price equal to $20.00 per share, exercisable for a ten-year period from March 2, 2022. In addition, under the Fuels Revolving Line, we issued 100,000 shares of common stock to existing note holders under the GAFI note purchase agreement. The shares were accounted at fair value and are being amortized over the life of the Fuels Revolving Line. The Revolving Lines contain various covenants, including but not limited to, debt to plant value ratio, accounts payable limit, and current ratio. In the event of default on these financial covenants the agent could terminate any unused portion of the Revolving Liens and/or (ii) declare the Revolving Advances, interest, and fees then outstanding become due and payable immediately. Upon closing of the New Credit Facility, the Company drew on the revolving lines to repay $16.0 million on the higher interest rate AAFK Revolving Credit Facility, $6.1 million in property taxes, and to fund the capital projects and working capital projects.

As of December 31, 2022., GAFI had $28.9 million in principal and interest outstanding and $1.5 million unamortized debt issuance costs. As of December 31, 2022, ACCI had $25.1 million in principal and interest outstanding and $2.4 million in unamortized debt issuance costs.

Cilion shareholder seller notes payable. In connection with the Company's merger with Cilion, Inc., (Cilion) on July 6, 2012, the Company issued $5.0 million in notes payable to Cilion shareholders (Cilion Notes) as merger compensation, subordinated to the Third Eye Capital Notes. The Cilion Notes bear interest at 3% per annum and are due and payable after the Third Eye Capital Notes have been paid in full. As of December 31, 2022, Aemetis Facility Keyes, Inc. had $6.8 million in principal and interest outstanding on the Cilion Notes.

Subordinated Notes. On January 6 and January 9, 2012, AAFK entered into Note and Warrant Purchase Agreements with two accredited investors pursuant to which it issued $0.9 million and $2.5 million in original notes to the investors (Subordinated Notes). The Subordinated Notes mature every six months. Upon maturity, the Subordinated Notes are generally extended with a fee of 10% added to the balance outstanding plus issuance of warrants exercisable at $0.01 with a two-year term. Interest accrues at 10% and is due at maturity. Neither AAFK nor Aemetis, Inc. may make any principal payments under the Subordinated Notes until all loans made by Third Eye Capital to AAFK are paid in full.

On January 1, 2022, the maturity on *two* Subordinated Notes' was extended until the earlier of (i) *June 30, 2022; (*ii) after the occurrence of an Event of Default, including failure to pay interest or principal when due and breaches of note covenants. A $90 thousand and $250 thousand cash extension fee was paid by adding the fee to the balance of the new Subordinated Notes and 113 thousand common stock warrants were granted with a term of two years and an exercise price of $0.01 per share. On July 1, 2022, the maturity on *two* Subordinated Notes' was extended until the earlier of (i) *December 31, 2022; (*ii) after the occurrence of an Event of Default, including failure to pay interest or principal when due and breaches of note covenants. A $90 thousand and $250 thousand cash extension fee was paid by adding the fee to the balance of the new Subordinated Notes and 113 thousand common stock warrants were granted with a term of two years and an exercise price of $0.01 per share. The Company evaluated the January 1, 2022 and July 1 2022 amendments and the refinancing terms of the notes and applied modification accounting treatment in accordance with ASC *470-50* Debt – Modification and Extinguishment.

At December 31, 2022 and 2021, the Company had, in aggregate, the amount of $15.9 million and $14.3 million in principal and interest outstanding, respectively, under the Subordinated Notes.

EB-5 promissory notes. EB-5 is a U.S. government program authorized by the Immigration and Nationality Act designed to foster employment-based visa preference for immigrant investors to encourage the flow of capital into the U.S. economy and to promote employment of U.S. workers. The Company entered into a Note Purchase Agreement dated March 4, 2011 (as further amended on January 19, 2012 and July 24, 2012) with Advanced BioEnergy, LP, a California limited partnership authorized as a Regional Center to receive EB-5 investments, for the issuance of up to 72 subordinated convertible promissory notes (the "EB-5 Notes") bearing interest at 2-3%. Each note was issued in the principal amount of $0.5 million and due and payable four years from the date of each note, for a total aggregate principal amount of up to $36.0 million (the "EB-5 Phase I funding"). The original maturity date on the promissory notes can be extended automatically for a one or two-year period initially and is eligible for further one-year automatic extensions as long as there is no notice of non-extension from investors and the investors' immigration process is in progress. On February 27, 2019, Advanced BioEnergy, LP, and the Company entered into an Amendment to the EB-5 Notes which restated the original maturity date on the promissory notes with automatic six-month extensions as long as the investors' immigration processes are in progress. Except for six early investor EB-5 Notes, the Company was granted 12 months from the date of the completion of immigration process to redeem these EB-5 Notes. Given the COVID-19 situation and processing delays for immigration process, Advanced BioEnergy, LP extended the maturity dates for debt repayment based on their projected processing timings as long as the investors don't give notice of withdrawal or I-829 gets approved. Accordingly, the notes have been recognized as long-term debt while investor notes who obtained green card approval have been classified as current debt. The EB-5 Notes are convertible after three years at a conversion price of $30 per share.

Advanced BioEnergy, LP arranges investments with foreign investors, who each make loans to the Keyes Plant in increments of $0.5 million. The Company has sold an aggregate principal amount of $36.0 million of EB-5 Notes under the EB-5 Phase I funding since 2012 to the date of this filing. As of December 31, 2022, $35.5 million has been released from the escrow amount to the Company, with $0.5 million remaining to be funded to escrow. During the years ended December 31, 2022 and 2021, the Company repaid none and $3.0 million for six investors who obtained green card approval under the EB-5 Phase I funding, respectively. As of December 31, 2022, $37.2 million in principal and interest was outstanding on the EB-5 Notes sold under the EB-5 Phase I funding.

On October 16, 2016, the Company launched its EB-5 Phase II funding, with plans to issue $50.0 million in additional EB-5 Notes on substantially similar terms and conditions as those issued under the Company's EB-5 Phase I funding, to refinance indebtedness and capital expenditures of Aemetis, Inc. and GAFI (the "EB-5 Phase II funding"). On November 21, 2019, the minimum investment was raised from $0.5 million per investor to $0.9 million per investor. The Company entered into a Note Purchase Agreement dated with Advanced BioEnergy II, LP, a California limited partnership authorized as a Regional Center to receive EB-5 Phase II funding investments, for the issuance of up to 100 EB-5 Notes bearing interest at 3%. On May 1, 2020 Supplement No. 3 amended the offering documents and lowered the total eligible new EB-5 Phase II funding investors to 60. Eight EB-5 investors have funded at the $0.5 million per investor amount, while 52 new EB-5 Phase II funding investors are eligible at the new $0.9 million per investor amount under the current offering. Job creation studies show additional investors may be possible to increase the total offering amount in the future. Each new note will be issued in the principal amount of $0.9 million and due and payable five years from the date of each note, for a total aggregate principal amount of up to $50.8 million.

The Company has sold an aggregate principal amount of $4.0 million of EB-5 Notes under the EB-5 Phase II funding since 2016 to the date of this filing. As of December 31, 2022, $4.0 million has been released from escrow to the Company and $46.8 million remains to be funded to escrow. As of December 31, 2022, $4.2 million was outstanding on the EB-5 Notes under the EB-5 Phase II funding.

Secunderabad Oils Operating Agreement. In November 2008, the Company entered into an operating agreement with Secunderabad Oils Limited ("Secunderabad Oils"). The 2008 agreement provided the working capital and had the first priority lien on assets in return for 30% of the plant's monthly net operating profit. These expenses were recognized as selling, general, and administrative expenses by the Company in the financials. All terms of the 2008 agreement with Secunderabad Oils were terminated to amend the agreement as below. On July 15, 2017, the agreement with Secunderabad Oils was amended to provide the working capital funds for British Petroleum business operations only in the form of inter-corporate deposit for an amount of approximately $2.3 million over a 95 day period at the rate of 14.75% per annum interest rate. The term of the agreement continues until either party terminates it. Secunderabad Oils has a second priority lien on the assets of the Company's Kakinada Plant after this agreement. As of December 31, 2022 and 2021, the Company had no balance outstanding under this agreement.

Working capital loans. On July 26, 2022, the Company entered into a short-term loan with Secunderabad Oils Limited in an amount not to exceed $1.88 million. On August 1, 2022, the Company entered into a short-term loan with Leo Edibles & Fats Limited in an amount not to exceed $1.27 million. The loans bears interest at 18% and are payable monthly. The loans are repayable on demand by the lender or within one year from the date of issuance. As of December 31, 2022, the loans were fully repaid.

Construction Loan Agreement. On October 4, 2022, the Company entered into a Construction Loan Agreement ("Loan Agreement") with Greater Nevada Credit Union ("GNCU"). Pursuant to the Loan Agreement, the lender has made available an aggregate principal amount not to exceed $25 million. The loan is secured by all personal property collateral and real property collateral of the Aemetis Biogas 1 LLC. The loan bears interest at a rate of 5.95% per annum and has an USDA annual renewal fee of 0.25%, with interest only payments to be paid in monthly installments, and a maturity date of March 4, 2023, at which time the entire unpaid principal amount, together with accrued and unpaid interest, is expected to be repaid from the proceeds of a term loan this is 80% USDA guaranteed and issued by GNCU pursuant to a USDA Conditional Commitment. The Loan Agreement contains certain financial covenants to be measured as of the last day of each fiscal year beginning fiscal year end 2023, and annually for the term of the loan. The Loan Agreement also contains other affirmative and negative covenants, representations and warranties and events of default customary for loan agreements of this nature. As of December 31, 2022, the Company had $20.2 million outstanding and unamortized discount issuances costs of $0.3 million under the Loan Agreement. The Company is in process of obtaining a sixty-day extension related to the Loan Agreement with GNCU.

Financing Agreement for capital expenditures. The Company entered into an agreement with Mitsubishi Chemical America, Inc. ("Mitsubishi") to purchase ZEBREX™ membrane dehydration equipment to conserve energy and improve operating efficiencies at the Keyes Plant. The Company also entered into a financing agreement with Mitsubishi for $5.7 million for this equipment. Payments pursuant to the financing transaction will commence after the installation date and interest will be charged based on the certain performance metrics after operation of the equipment. We recorded the asset in property, plant and equipment, net and recorded the related liability of $1.0 million in short term borrowings and $4.8 million in other long-term debt, respectively as of December 31, 2022.

(Tabular data in thousands, except par value and per share data)

Debt repayments for the Company's loan obligations follow:

Twelve months ended December 31,	Debt Repayments
2023	$ 49,219
2024	140,001
2025	32,574
2026	27,712
2027	981
There after	895
Total debt	251,382
Debt issuance costs	(5,142)
Total debt, net of debt issuance costs	$ 246,240

5. Commitments and Contingencies

Leases

We have identified assets as the corporate office, warehouse, monitoring equipment and laboratory facilities over which we have control and obtain economic benefits fully. We classified these identified assets as operating leases after assessing the terms under classification guidance. We have entered into several leases for trailers and carbon units with purchase option at the end of the term. We have concluded that it is reasonably certain that we would exercise the purchase option at the end of the term, hence the leases were classified as finance leases. All of our leases have remaining term of one year to 14 years.

We made an accounting policy election to keep leases with an initial term of 12 months or less off of the balance sheet. We will recognize those lease payments in the Consolidated Statements of Operations as we incur the expenses.

When discount rates implicit in leases cannot be readily determined, the Company uses the applicable incremental borrowing rate at lease commencement to perform lease classification tests on lease components and to measure lease liabilities and ROU assets. The incremental borrowing rate used by the Company was based on weighted average baseline rates commensurate with the Company's secured borrowing rate, over a similar term. At each reporting period when there is a new lease initiated, the rates established for that quarter will be used.

On December 14, 2021, we entered into a real estate purchase agreements and lease disposition and development agreement with the City of Riverbank. We plan to utilize the purchased and leased properties, located at 5300 Claus Road in the city of Riverbank, California, for the construction of the Carbon Zero Facility. The Company evaluated the lease in accordance with ASC *842* – Lease Accounting and classified the lease as a finance lease.

(Tabular data in thousands, except par value and per share data)

The components of lease expense and sublease income was as follows:

	Twelve Months Ended December 31,	
	2022	2021
Operating lease cost		
Operating lease expense	$ 673	$ 812
Short term lease expense	176	207
Variable lease expense	91	107
Total operating lease cost	$ 940	$ 1,126
Finance lease cost		
Amortization of right-of-use assets	$ 179	$ 230
Interest on lease liabilities	310	81
Total finance lease cost	$ 489	$ 311

Cash paid for amounts included in the measurement of lease liabilities:

	Twelve Months Ended December 31,	
	2022	2021
Operating cash flows used in operating leases	$ 766	$ 698
Operating cash flows used in finance leases	310	81
Financing cash flows used in finance leases	481	505

Supplemental non-cash flow information related to the operating ROU asset and lease liabilities was as follows for the year ended December 31, 2022 and 2021:

	Twelve Months Ended December 31,	
	2022	2021
Operating leases		
Accretion of the lease liability	$ 340	$ 378
Amortization of right-of-use assets	333	434
Weighted Average Remaining Lease Term		
Operating leases (in years)	5.2	
Finance leases (in years)	14.0	
Weighted Average Discount Rate		
Operating leases	14.2%	
Finance leases	13.2%	

(Tabular data in thousands, except par value and per share data)

Supplemental balance sheet information related to leases was as follows:

	As of	
	December 31, 2022	December 31, 2021
Operating leases		
Operating lease right-of-use assets	$ 2,449	$ 2,462
Current portion of operating lease liability	338	260
Long term operating lease liability	2,189	2,318
Total operating lease liabilities	2,527	2,578
Finance leases		
Property and equipment, at cost	$ 3,045	$ 2,317
Accumulated depreciation	(112)	(376)
Property and equipment, net	2,933	1,941
Other current liability	71	550
Other long term liabilities	2,911	720
Total finance lease liabilities	2,982	1,270

Maturities of operating lease liabilities were as follows:

Year Ended December 31,	Operating leases	Finance leases
2023	$ 667	$ 429
2024	682	179
2025	681	168
2026	626	145
2027	645	145
There after	274	11,000
Total lease payments	3,575	12,066
Less imputed interest	(1,048)	(9,084)
Total lease liability	$ 2,527	$ 2,982

The Company acts as sublessor in certain leasing arrangements, primarily related to land and buildings. Fixed sublease payments received are recognized on a straight-line basis over the sublease term. Sublease income and head lease expense for these transactions are recognized on a gross basis on the consolidated financial statements. Sublease income was recorded in the other operating income section of the Consolidated Statements of Operations and Comprehensive Loss.

The components of lease income for the years ended December 31, 2022 and 2021 were as follows:

	December 31, 2022	December 31, 2021
Lease income	$ 1,255	$ -

Future lease commitments to be received by the Company as of December 31, 2022 were as follows:

Year ended December 31,	
2023	$ 841
2024	572
2025	501
2026	474
2027	474
There after	1,066
Total future lease commitments	$ 3,928

Legal Proceedings

On August 31, 2016, the Company filed a lawsuit in Santa Clara County Superior Court against defendant EdenIQ, Inc. (“EdenIQ”). The lawsuit was based on EdenIQ’s wrongful termination of a merger agreement that would have effectuated the merger of EdenIQ into a new entity that would be primarily owned by Aemetis. On July 24, 2019, the court awarded EdenIQ a portion of the fees and costs it had sought in the amount of approximately $6.2 million and the Company recorded these fees based on the court order. On May 6, 2022 the parties settled the dispute for $4.8 million by entering into a settlement agreement. The settlement was paid and a gain on litigation of $1.4 million was recognized on the income statement in the second quarter of 2022.

The Company is subject to legal proceedings and claims which arise in the ordinary course of its business. While the ultimate outcome of these matters is not presently determinable, it is in the opinion of management that the resolution of outstanding claims will not have a material adverse effect on the financial position or results of operations of the Company. Due to the uncertainties in the settlement process, it is at least reasonably possible that management's view of outcomes will change in the near term.

6. Aemetis Biogas - Series A Preferred Financing and Variable Interest Entity

On December 20, 2018, ABGL entered into a Series A Preferred Unit Purchase Agreement for the sale of Series A Preferred Units to Protair-X Americas, Inc., with Third Eye Capital acting as an agent.

ABGL is authorized to issue 11,000,000 common units, and up to 6,000,000 convertible, redeemable, secured, preferred membership units (the "Series A Preferred Units"). ABGL issued 6,000,000 common units to the Company at $5.00 per common unit for a total of $30,000,000 in funding. Additionally, 5,000,000 common units of ABGL are held in reserve as potential conversion units issuable to the Purchaser upon certain triggering events discussed below.

The Preferred Unit Agreement includes (i) preference payments of $0.50 per unit on the outstanding Series A Preferred Units commencing on the second anniversary, with any outstanding preference payments shall have an interest per annum rate equal to ten percent (ii) conversion rights for up to 1,200,000 common units or up to maximum number of 5,000,000 common units (also at a one Series A Preferred Unit to one common unit basis) if certain triggering events occur, (iv) one board seat of the three available to be elected by Series A Preferred Unit holders, (iii) mandatory redemption value at $15 per unit payable at an amount equal to 75% of free cash flow generated by ABGL, up to $90 million in the aggregate (if all units are issued), (iv) full redemption of the units on the sixth anniversary, (v) minimum cash flow requirements from each digester, and (vi) $0.9 million paid as fees to the Agent from the proceeds. Until paid, the obligations of ABGL under the Preferred Unit Agreement are secured by the assets of ABGL in an amount not to exceed the sum of (i) $30,000,000, plus (ii) all interest, fees, charges, expenses, reimbursement obligations and indemnification obligations of ABGL.

Triggering events occur upon ABGL's failure to redeem units, comply with covenants, any other defaults or cross defaults, or to perform representations or warranties. Upon a triggering event: (i) the obligation of the Purchaser to purchase additional Series A Preferred Units is terminated, (ii) cash flow payments for redemption payments increases from 75% to 100% of free cash flows, and (iii) total number of common units into which preferred units may be converted increases from 1,200,000 common units to 5,000,000 common units on a one for one basis. As of December 31, 2022, ABGL has not generated minimum quarterly operating cash flows by operating the dairies. As a result of the violation of this covenant, free cash flows, when they occur, may be applied for redemption payments at the increased rate of 100% instead of the initial rate of 75% of free cash flows.

On August 8th, 2022, ABGL entered into a Waiver and Amendment to Series A Preferred Unit Purchase Agreement ("PUPA Amendment") providing for: (i) a waiver of certain covenants prohibiting the internal reorganization of ABGL subsidiaries and the incurrence of indebtedness by ABGL and its subsidiaries pursuant to a USDA loan; (ii) a waiver of certain operational defaults under the PUPA; and (iii) an amendment which (a) requires ABGL to redeem all of the outstanding Series A Preferred Units by December 31, 2022 (the "Final Redemption Date") for $116 million; and (b) provides ABGL the right to redeem all of the outstanding Series A Preferred Units by September 30, 2022 for $106 million. The PUPA Amendment further provides the failure to redeem the Series A Preferred Units by the Final Redemption Date would constitute a triggering event requiring ABGL to enter into a credit agreement with Protair and Third Eye Capital effective as of January 1, 2023. We evaluated the terms of the PUPA Amendment and applied extinguishment accounting treatment in accordance with ASC 470-50 Debt – Modification and Extinguishment and recorded a loss on extinguishment of $49.4 million.

On January 1st, 2023, ABGL entered into the Second Waiver and Amendment to Series A Preferred Unit Purchase Agreement ("PUPA Second Amendment") providing for: (i) a waiver for not complying to redeem all Series A Preferred Units by December 31, 2022, and (ii) provides ABGL the right to redeem all of the outstanding Series A Preferred Units by May 31, 2023, for $125 million. The PUPA Amendment further provides that failure to redeem the Series A Preferred Units by the redemption date, ABGL is required to enter into a credit agreement with Protair and Third Eye Capital effective as of June 1, 2023, in substantially the form attached to the PUPA Amendment. We will evaluate the terms of the PUPA Second Amendment No.2 in accordance with ASC topic 470.

From inception of the agreement to date, ABGL issued 3,200,000 Series A Preferred Units on first tranche for a value of $16.0 million and also issued 2,800,000 of Series A Preferred Units on second tranche for a value of $14.0 million, reduced by a redemption of 20,000 Series A Preferred Units for $0.3 million. The Company accreted these tranches from an initial fair value at August 8, 2022 of $105.8 million to the redemption value of $116 million as of December 31, 2022 using the effective interest method. In addition, the Company identified freestanding future tranche rights and the accelerated redemption feature related to a change in control provision as derivatives which required bifurcation. These derivative features were assessed to have minimal value as of December 31, 2022 and 2021 based on the evaluation of the other conditions included in the agreement.

During the year ended December 31, 2021, ABGL issued 626,000 of Series A Preferred Units for incremental proceeds of $3.1 million as part of the second tranche of the Preferred Unit Agreement and redeemed 20,000 of Series A Preferred Units for $0.3 million. Consistent with the previous issuances which were treated as a liability as the conversion option was deemed to be non-substantive, the current issuances are treated as a liability as the conversion option was still deemed to be non-substantive.

(Tabular data in thousands, except par value and per share data)

The Company recorded Series A Preferred Unit liabilities, net of unit issuance costs and inclusive of accretive preference pursuant to this agreement, and accrued preference payments, classified as current portion of Series A Preferred Units, of $0 and $3.2 million, and long-term liabilities of $116,000 and $45.0 million as of December 31, 2022 and 2021, respectively.

Variable interest entity assessment

After consideration of ABGL's operations and the above agreement, we concluded that ABGL did not have enough equity to finance its activities without additional subordinated financial support. ABGL is capitalized with Series A Preferred Units that are recorded as liabilities under U.S. GAAP. Hence, we concluded that ABGL is a VIE. Through the Company's ownership interest in all of the outstanding common stock, its current ability to control the board of directors, the management fee paid to Aemetis and control of subordinated financing decisions, Aemetis has been determined to be the primary beneficiary and accordingly, the assets, liabilities, and operations of ABGL are consolidated into those of the Company. Total assets, before intercompany eliminations, of ABGL were $79.8 million primarily related to biodigesters at two dairies and a pipeline which serve as collateral for the Series A Preferred Unit totaling $116.0 million. The Series A Preferred Units are not collateralized by any other assets or guarantees from Aemetis or its subsidiaries.

7. Stockholders' Equity

The Company is authorized to issue up to 80 million shares of common stock, $0.001 par value per share and 65 million shares of preferred stock, $0.001 par value per share.

Convertible Preferred Stock

The following is a summary of the authorized, issued and outstanding convertible preferred stock:

	Authorized Shares	Shares Issued and Outstanding December 31, 2022	2021
Series B preferred stock	7,235	1,270	1,275
Undesignated	57,765	-	-
	65,000	1,270	1,275

Our Articles of Incorporation authorize the Company's board to issue up to 65 million shares of preferred stock, $0.001 par value, in one or more classes or series within a class upon authority of the board without further stockholder approval.

Significant terms of the designated preferred stock are as follows:

Voting. Holders of the Company's Series B preferred stock are entitled to the number of votes equal to the number of shares of Common Stock into which the shares of Series B preferred stock held by such holder could be converted as of the record date. Cumulative voting with respect to the election of directors is not allowed. Currently each share of Series B preferred stock is entitled to a 1 for 10, as converted, vote per share of Series B preferred stock. In addition, without obtaining the approval of the holders of a majority of the outstanding preferred stock, the Company cannot:

- Increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series B preferred stock;
- Effect an exchange, reclassification, or cancellation of all or a part of the Series B preferred stock, including a reverse stock split, but excluding a stock split;
- Effect an exchange, or create a right of exchange, of all or part of the shares of another class of shares into shares of Series B preferred stock; or
- Alter or change the rights, preferences or privileges of the shares of Series B preferred stock so as to affect adversely the shares of such series.

Dividend Holders of all of the Company's shares of Series B preferred stock are entitled to receive non-cumulative dividends payable in preference and before any declaration or payment of any dividend on common stock as may from time to time be declared by the board of directors out of funds legally available for that purpose at the rate of 5% of the original purchase price of such shares of preferred stock. No dividends may be made with respect to the Company's common stock until all declared dividends on the preferred stock have been paid or set aside for payment to the preferred stockholders. To date, no dividends have been declared.

Liquidation Preference. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, the holders of the Series B preferred stock are entitled to receive, prior and in preference to any payment to the holders of the common stock, $3.00 per share plus all declared but unpaid dividends (if any) on the Series B preferred stock. If the Company's assets legally available for distribution to the holders of the Series B preferred stock are insufficient to permit the payment to such holders of their full liquidation preference, then the Company's entire assets legally available for distribution are to be distributed to the holders of the Series B preferred stock in proportion to their liquidation preferences. After the payment to the holders of the Series B preferred stock of their liquidation preference, the Company's remaining assets legally available for distribution are distributed to the holders of the common stock in proportion to the number of shares of common stock held by them. A liquidation, dissolution or winding up includes (a) the acquisition of the Company by another entity by means of any transaction or series of related transactions to which the Company is party (including, without limitation, any stock acquisition, reorganization, merger or consolidation but excluding any sale of stock for capital raising purposes) that results in the voting securities of the Company outstanding immediately prior thereto failing to represent immediately after such transaction or series of transactions (either by remaining outstanding or by being converted into voting securities of the surviving entity or the entity that controls such surviving entity) a majority of the total voting power represented by the outstanding voting securities of the Company, such surviving entity or the entity that controls such surviving entity, or (b) a sale, lease or other conveyance of all or substantially all of the assets of the Company.

Conversion. Holders of Series B preferred stock have the right, at their option at any time, to convert any shares into common stock. Every 10 shares of preferred stock will convert into one share of common stock, at the current conversion rate. The conversion ratio is subject to adjustment from time to time in the event of certain dilutive issuances and events, such as stock splits, stock dividends, stock combinations, reclassifications, exchanges and the like. In addition, at such time as a Registration Statement covering the resale of the shares of common stock is declared effective, then all outstanding Series B preferred stock shall be automatically converted into common stock at the then effective conversion rate.

Mandatorily Redeemable Series B preferred stock. In connection with the election of dissenters' rights by the Cordillera Fund, L.P., at December 31, 2008 the Company reclassified 583 thousand shares with an original purchase price of $1.8 million out of shareholders' equity to a liability called "mandatorily redeemable Series B preferred stock" and accordingly reduced stockholders' equity by the same amount to reflect the Company's obligations with respect to this matter. The obligation accrues interest at the rate of prime + 2% per year (9.50% at December 31, 2022). At December 31, 2022 and 2021, the Company had accrued an outstanding obligation of $4.1 million and $3.8 million, respectively. Full cash payment to the Cordillera Fund is past due. The Company expects to pay this obligation upon availability of funds after paying senior secured obligations.

8. Outstanding Warrants

During the years ended December 31, 2022 and 2021, the Company granted 227 thousand common stock warrants, respectively, for the extension of certain Subordinated Notes for each period, respectively. The accredited investors received 2-year warrants exercisable at $0.01 per share as part of note agreements. In addition, for the year ending December 31, 2022, the Company granted 300 thousand common stock warrants to obtain the Revolving Lines. The accredited investors received 50 thousand 5-year warrants exercisable at $10.20 per share and 250 thousand 10-year warrants exercisable at $20.00 per share as part of note agreements. Also, during the year ending December 31, 2021, the Company granted 65 thousand common stock warrants for milestones related to the Aemetis Carbon Capture, Inc carbon sequestration project. The accredited investors received 2-year warrants exercisable at $0.01 per share as part of note agreements. The warrants are equity classified.

(Tabular data in thousands, except par value and per share data)

The weighted average fair value calculations for warrants granted are based on the following weighted average assumptions:

Description	For the year ended December 31, 2022	2021
Dividend-yield	0%	0%
Risk-free interest rate	1.75%	0.21%
Expected volatility	151.41%	136.16%
Expected life (years)	3	2
Exercise price per share	$ 10.47	$ 0.01
Market value per share on grant date	$ 11.29	$ 9.92
Fair value per share on grant date	$ 9.68	$ 9.91

A summary of historical warrant activity for the years ended December 31, 2022 and 2021 follows:

	Warrants Outstanding & Exercisable	Weighted - Average Exercise Price	Average Remaining Term in Years
Outstanding December 31, 2020	95	$ 2.59	4.95
Granted	292	0.01	
Exercised	(332)	0.32	
Outstanding December 31, 2021	55	$ 2.59	3.95
Granted	527	10.47	
Exercised	(227)	0.01	
Outstanding December 31, 2022	355	$ 15.92	7.48

All of the above outstanding warrants are vested and exercisable as of December 31, 2022. As of December 31, 2022 and 2021, the Company had no unrecognized compensation expense related to warrants, respectively.

9. Stock-Based Compensation

2019 Plan

On April 29, 2019, the Aemetis 2019 Stock Plan (the "2019 Stock Plan") was approved by stockholders of the Company. This plan permits the grant of Incentive Stock Options, Non-Statutory Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Units, Performance Shares and other stock or cash awards as the Administrator may determine in its discretion. The 2019 Stock Plan's term is 10 years and supersedes all prior plans. The 2019 Stock Plan authorized the issuance of 200,000 shares of common stock for the 2019 calendar year, in addition to permitting transferring and granting any available and unissued or expired options under the Amended and Restated 2007 Stock Plan in an amount up to 177,246 options.

With the approval of the 2019 Stock Plan, the Zymetis 2006 Stock Plan, and Amended and Restated 2007 Stock Plan are terminated for granting any options under either plan. However, any options granted before the 2019 Stock Plan approved will remain outstanding and can be exercised, and any expired options will be available to grant under the 2019 Stock Plan.

During the year ended December 31, 2021, 154,000 restricted stock awards and 1,140,000 stock option grants were issued and approved by the Company's board of directors ("Board") for employees and directors under the 2019 Stock Plan with 10-year terms and vesting terms ranging from immediately to 3 years.

During the year ended December 31, 2022, the company issued 1.3 million incentive stock option for employees under the 2019 Stock Plan. In addition, 89,000 restricted stock award grants, with a weighted average fair value on date of grant of $10.92 per award, were issued to the Board.

(Tabular data in thousands, except par value and per share data)

Inducement Equity Plan Options

In March 2016, the Board of Directors of the Company (the "Board") approved an Inducement Equity Plan authorizing the issuance of 100,000 non-statutory stock options to purchase common stock. As of December 31, 2022, no options were outstanding under the Inducement Equity Plan.

Common Stock Reserved for Issuance

The following is a summary of awards granted under the above Plans:

	Shares Available for Grant	Number of Shares Outstanding	Weighted-Average Exercise Price
Balance as of December 31, 2020	380	5,327	$ 1.14
Authorized	816	-	-
Options Granted	(1,141)	1,141	5.60
RSAs Granted	(154)	-	-
Exercised	-	(2,498)	1.39
Forfeited/expired	241	(207)	1.84
Balance as of December 31, 2021	142	3,763	$ 2.29
Authorized	1,338	-	-
Options Granted	(1,307)	1,307	10.97
RSAs Granted	(89)	-	-
Exercised	-	(295)	0.93
Forfeited/expired	81	(81)	11.63
Balance as of December 31, 2022	165	4,694	$ 4.63

(Tabular data in thousands, except par value and per share data)

The following is a summary of vested and unvested awards outstanding as of December 31, 2022 and 2021:

	Number of Shares		Weighted Average Exercise Price	Remaining Contractual Term (In Years)		Aggregate Intrinsic Value1
2022						
Vested and Exercisable	3,170	$	2.46	6.98	$	7,419
Unvested	1,524		9.13	8.81		647
Total	4,694	$	4.63	7.58	$	8,066
2021						
Vested and Exercisable	2,346	$	1.32	7.68	$	25,771
Unvested	1,417		3.89	8.64		12,961
Total	3,763	$	2.29	8.04	$	38,732

(1) Intrinsic value based on the $3.96 and $12.30 closing price of Aemetis stock on December 31, 2022 and 2021 respectively, as reported on the NASDAQ Exchange.

Stock-based compensation for employees

Stock-based compensation is accounted for in accordance with the provisions of ASC 718, Compensation-Stock Compensation, which requires the measurement and recognition of compensation expense for all stock-based awards made to employees and directors based on estimated fair values on the grant date. We estimate the fair value of stock-based awards on the date of grant using the Black-Scholes option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods using the straight-line method.

For the years ended December 31, 2022 and 2021 the Company recorded stock-based compensation expense in the amount of $6.4 million, and $3.9 million, respectively.

Valuation and Expense Information

All issuances of stock options or other issuances of equity instruments to employees as the consideration for services received by us are accounted for based on the fair value of the equity instrument issued. The fair value of options granted to employees is estimated on the grant date using the Black-Scholes option valuation model. This valuation model for stock based compensation expense requires us to make assumptions and judgments about the variables used in the calculation, including the fair value of our common stock, the expected term (the period of time that the options granted are expected to be outstanding), the volatility of our common stock, a risk-free interest rate, and expected dividends. We also estimate forfeitures of unvested stock options. To the extent actual forfeitures differ from our estimates, the difference will be recorded as a cumulative adjustment in the period estimates are revised. Compensation cost is recorded only for vested options. We use the simplified calculation of expected life described in the SEC’s Staff Accounting Bulletin No. 107, Share-Based Payment, and volatility is based on an average of the historical volatilities of the common stock of four entities with characteristics similar to those of the Company. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected life of the option. We use an expected dividend yield of zero, as we do not anticipate paying any dividends in the foreseeable future. Expected forfeitures are assumed to be zero due to the small number of plan participants and the plan.

(Tabular data in thousands, except par value and per share data)

The weighted average fair value calculations for options granted during the year ended 2022 and 2021 are based on the following assumptions:

Description	For the year ended December 31,	
	2022	2021
Dividend-yield	0%	0%
Risk-free interest rate	2.03%	0.83%
Expected volatility	117.21%	100.47%
Expected life (years)	7.00	6.59
Market value per share on grant date	$ 10.97	$ 5.60
Fair value per share on grant date	$ 9.71	$ 4.68

As of December 31, 2022, the Company had $10.7 million of total unrecognized compensation expense for employees which the Company will amortize over the weighted remaining term of 2.1 years.

10. Agreements

Working Capital Arrangement. Pursuant to a Corn Procurement and Working Capital Agreement with J.D. Heiskell, the Company agreed to procure whole yellow corn and grain sorghum, primarily from J.D. Heiskell. The Company has the ability to obtain grain from other sources subject to certain conditions; however, in the past all the Company's grain purchases have been from J.D. Heiskell. Title and risk of loss of the corn pass to the Company when the corn is deposited into the Keyes Plant weigh bin. The term of the Corn Procurement and Working Capital Agreement expires on December 31, 2023, and the term can be automatically renewed for additional one-year terms. WDG continues to be sold to A.L.Gilbert and DCO is sold to other customers under the J.D.Heiskell Purchase Agreement. The Company's relationships with J.D. Heiskell, and A.L. Gilbert are well established, and the Company believes that the relationships are beneficial to all parties involved in utilizing the distribution logistics, reaching out to widespread customer base, managing inventory, and building working capital relationships. These agreements are ordinary purchase and sale agency agreements for the Keyes Plant. On May 13, 2020, J.D. Heiskell and the Company entered into Amendment No.1 to the J.D. Heiskell Purchasing Agreement to remove J.D. Heiskell's obligations to purchase ethanol from the Company under the J.D. Heiskell Purchasing Agreement.

As of December 31, 2022 and 2021, Aemetis made prepayments to J.D. Heiskell of $2.4 million and $4.0 million.

The J.D. Heiskell purchases and sales activity associated with the Purchasing Agreement, Corn Procurement and Working Capital Agreements during the years ended December 31, 2022 and 2021 were as follows:

	As of and for the twelve months ended December 31,	
	2022	2021
Wet distiller's grains sales	$ 50,930	$ 41,476
Corn oil sales	10,168	6,184
Corn purchases	191,401	159,309
Accounts receivable	-	308
Accounts payable	27	862

Ethanol and Wet Distillers Grains Marketing Arrangement. The Company entered into an Ethanol Marketing Agreement with Kinergy and a Wet Distillers Grains Marketing Agreement with A.L. Gilbert. Under the terms of the agreements the Wet Distillers Grains Marketing Agreement matures on December 31, 2022 with automatic one-year renewals thereafter. We terminated the Ethanol Marketing Agreement with Kinergy as of September 30, 2021. Effective October 1, 2021, we entered into Fuel Ethanol Purchase and Sale Agreement with Murex. Under the terms of the agreement, the initial term matures on October 31, 2023 with automatic one-year renewals thereafter.

Sales to Kinergy were none and $110.7 million and there was no accounts receivable associated with Kinergy for the years ending December 31, 2022 and 2021, respectively.

(Tabular data in thousands, except par value and per share data)

Sales to Murex were $165.9 million and $51.7 million, and accounts receivable associated with Murex was $0.6 million $1.0 million, for the years ending December 31, 2022 and 2021, respectively.

For the years ended December 31, 2022 and 2021, the Company expensed marketing costs of $2.9 million for each period under the terms of both the Ethanol Marketing Agreement and the Wet Distillers Grains Marketing Agreement and are presented in Selling, General, and Administration expense.

For the years ended December 31, 2022 and 2021, the Company expensed shipping and handling costs related to sales of ethanol $3.3 million for each period and expensed transportation costs related to sales of WDG of $5.3 million and $3.1 million.

Supply Trade Agreement. On July 1, 2022, the Company entered into an operating agreement with Gemini Edibles and Fats India Private Limited ("Gemini"). Under this agreement, Gemini agreed to provide the Company with a supply of feedstock up to a credit limit of $12.7 million. If the Company fails to pay the invoice within the ten-day credit period, the outstanding amount will bear interest at 12%. The term of the agreement is for one year. Either party can terminate the agreement by giving notice one month notice in writing. As of December 31, 2022 and 2021, the Company had no outstanding balance under this agreement.

As of December 31, 2022, the Company has no forward sales commitments.

11. Segment Information

Aemetis recognizes three reportable segments "California Ethanol", "California Dairy Renewable Natural Gas", and "India Biodiesel."

The "California Ethanol" reportable segment includes the Company's 65 million gallon per year ethanol plant in Keyes, California, and the adjacent land leased for the production of CO_2.

The "California Dairy Renewable Natural Gas" reportable segment includes, the dairy digesters, pipeline and gas condition unit for the production of biogas from dairies near Keyes, California.

The "India Biodiesel" reportable segment includes the Company's 50 million gallon per year nameplate capacity biodiesel manufacturing Kakinada Plant, the administrative offices in Hyderabad, India, and the holding companies in Nevada and Mauritius. The Company's biodiesel is marketed and sold primarily to customers in India through brokers and by the Company directly.

The Company has additional operating segments that were determined not to be reportable segments, including the Carbon Zero facility in Riverbank, and the Carbon Capture project in California. Additionally, the corporate offices, Goodland Plant in Kansas and the research and development facility in Minnesota are included in the "All Other" category.

Summarized financial information by reportable segment for the years ended December 31, 2022 and 2021 follow:

	For the year ended December 31, 2022				
	California Ethanol	California Dairy Renewable Natural Gas	India Biodiesel	All other	Total
Revenues from external customers	$ 228,194	$ 208	$ 28,111	$ -	$ 256,513
Intersegment revenues	-	1,002	-	-	1,002
Gross profit (loss)	(13,017)	(778)	8,273	(13)	(5,535)
Interest expense, including amortization of debt fees	20,637	742	119	7,272	28,770
Accretion and other expenses of Series A preferred units	-	9,888	-	-	9,888
Loss on debt extinguishment	-	49,386	-	-	49,386
Capital expenditures	8,399	22,884	129	7,745	39,157
Depreciation	4,148	615	650	122	5,535
Total Assets	66,794	77,714	16,120	46,486	207,114

(Tabular data in thousands, except par value and per share data)

	For the year ended December 31, 2021				
	California Ethanol	California Dairy Renewable Natural Gas	India Biodiesel	All other	Total
Revenues from external customers	$ 211,251	$ -	$ 696	$ 2	$ 211,949
Intersegment revenues	-	1,445	-	-	1,445
Gross profit (loss)	9,565	(488)	(23)	(1,115)	7,939
Interest expense, including amortization of debt fees	21,625	13	-	2,419	24,057
Accretion and other expenses of Series A preferred units	-	7,718	-	-	7,718
Gain on debt extinguishment	(713)	-	-	(421)	(1,134)
Capital expenditures	2,763	17,702	142	6,045	26,652
Depreciation	4,132	577	686	53	5,448
Total Assets	75,909	40,027	10,779	34,116	160,831

A reconciliation of reportable segment revenues to consolidated totals for the years 2022 and 2021 follow:

Revenues	2022	2021
Total revenues for reportable segments	$ 257,515	$ 213,394
Elimination of intersegment revenues	(1,002)	(1,445)
Total consolidated revenues	$ 256,513	$ 211,949

California Ethanol: During the year ended December 31, 2022 and 2021, the Company amended the Corn Procurement and Working Capital Agreement and the J.D. Heiskell Purchasing Agreement to procure corn from J.D. Heiskell and sell all WDG and corn oil the Company produces to J.D. Heiskell. Sales of ethanol to one customer accounted for 73% of the California Ethanol segment's revenue for the year ended December 31, 2022. Sales of WDG, and corn oil to one customer accounted for 26% of the Company's California Ethanol segment revenues for the year ended December 31, 2022. Sales of ethanol to two customers accounted for 52% and 24% of the California Ethanol segment's revenue for the year ended December 31, 2021. Sales of WDG, and corn oil to one customer accounted for 23% of the Company's California Ethanol segment revenues for the year ended December 31, 2021.

California Dairy Renewable Natural Gas: Substantially all of our California Dairy Renewable Natural Gas segment revenues during the years ended December 31, 2022 and 2021 were from sales of biogas to the Keyes Plant for use in boilers, which allowed qualification of carbon credits for the ethanol produced in the Keyes Plant. During the fourth quarter of 2022, we began to sell the dairy renewable natural gas to an external party.

India Biodiesel: During the year ended December 31, 2022, three biodiesel customers accounted for 48%, 29% and 12% of the Company's India Biodiesel segment revenues. During the year ended December 31, 2021, one biodiesel customers accounted for 66% of the Company's India Biodiesel segment revenues while one of the refined glycerin customers accounted for 16% of the Company's India Biodiesel segment revenues.

(Tabular data in thousands, except par value and per share data)

12. Related Party Transactions

The Company owes Eric McAfee, the Company's Chairman and CEO, and McAfee Capital LLC ("McAfee Capital"), owned by Eric McAfee, $0.4 million in connection with employment agreements and expense reimbursements. The balance accrued related to these employment agreements was $0.4 million as of December 31, 2021. For the years ended December 31, 2022 and 2021, the Company expensed $0.3 million, and $15 thousand to reimburse actual expenses incurred by McAfee Capital and related entities. The Company previously prepaid $0.2 million to Redwood Capital, a company controlled by Eric McAfee, for the Company's use of flight time on a corporate jet. As of December 31, 2022, $0.1 million remained as a prepaid expense. As of December 31, 2021, one executive owes the Company $106 thousand related to stock option exercises. This was repaid in January 2022.

On May 7, 2020, the Audit Committee of the Company approved a guarantee fee of 0.1% quarterly on the outstanding balance of Third Eye Capital Notes or $0.6 million. On November 4, 2021, the Audit Committee of the Company approved a guarantee fee of $0.4 million. The balance of $0 and $0.3 million, for guaranty fees, remained as an accrued liability as of December 31, 2022 and 2021, respectively. On January 12, 2022, the Audit Committee of the Company approved a one-time guarantee fee of $2.0 million, paid in stock, to McAfee Capital in connection with McAfee Capitals extension of certain guarantees of the Company's indebtedness with Third Eye Capital.

The Company owes various members of the Board amounts totaling $0.3 million and $0.2 million as of December 31, 2022 and December 31, 2021, for each period, in connection with board compensation fees, which are included in accounts payable on the balance sheet. For the years ended December 31, 2022 and 2021 the Company expensed $0.4 million, and $0.4 million, respectively, in connection with board compensation fees. During the year ended December 31,2021 the company issued $0.9 million of restricted stock awards to pay off outstanding accounts payable owed to members of the Board.

13. Income Tax

The Company files a consolidated federal income tax return including all its domestic subsidiaries. State tax returns are filed on a consolidated, combined or separate basis depending on the applicable laws relating to the Company and its subsidiaries.

Components of tax expense consist of the following:

	2022	2021
Current:		
Federal	$ -	$ -
State and Local	13	11
Foreign	230	-
	243	11
Deferred:		
Federal	-	-
State and Local	-	-
Foreign	810	(139)
Income tax expense/(benefit)	$ 1,053	$ (128)

The Company records deferred tax liability in other long term liabilities in the Consolidated Balance Sheets. The deferred tax liability resulted as India subsidiary had income for the year ended December 31, 2022. U.S. loss and foreign income (loss) before income taxes are as follows:

	Year Ended December 31, 2022	Year Ended December 31, 2021
United States	$ (112,959)	$ (45,723)
Foreign	6,254	(1,552)
Pretax loss	$ (106,705)	$ (47,275)

(Tabular data in thousands, except par value and per share data)

Income tax benefit differs from the amounts computed by applying the statutory U.S. federal income tax rate (21%) to loss before income taxes as a result of the following:

	Year Ended December 31,	
	2022	**2021**
Income tax benefit at the federal statutory rate	$ (22,408)	$ (9,928)
State tax benefit	(496)	(2,875)
Foreign tax differential	168	(96)
Stock-based compensation	295	252
Interest Expense	58	1,842
GILTI Inclusion	1,126	-
Prior year true-ups	55	140
Non-includible US Entities	13,499	-
Other	46	497
Credits	(2,373)	(2,074)
Valuation Allowance	11,083	12,114
Income Tax Expense (Benefit)	1,053	(128)
Effective Tax Rate	-0.99%	0.27%

The components of the net deferred tax asset or (liability) are as follows:

	Year Ended December 31,	
	2022	**2021**
Deferred Tax Assets		
Organizational Costs, Start-up and Intangible Assets	$ 2,309	$ 5,068
Stock Based Compensation	1,842	1,174
NOLs, Unabsorbed Depreciation and R&D Credits C/F's	68,201	61,624
Interest expense carryover	22,374	17,436
Ethanol Credits	1,500	1,500
Carbon Oxide Sequestration Credit	5,827	3,460
Accrued Expenses	2,001	3,312
Operating Lease Liability	1,512	1,082
Other, net	113	737
Total Deferred Tax Assets	105,679	95,392
Valuation Allowance	(95,214)	(83,260)
Net Deferred Tax Assets	10,465	12,133
Deferred Tax Liabilities		
Right of Use Asset	(1,477)	(1,238)
Property, Plant & Equipment	(9,788)	(10,882)
Other, net	(10)	(13)
Total Deferred Tax Liabilities	(11,275)	(12,133)
Net Deferred Tax Liabilities	$ (810)	$ -

Based on the Company's evaluation of current and anticipated future taxable income, the Company believes it is more likely than not that insufficient taxable income will be generated to realize the net deferred tax assets, and accordingly, a valuation allowance has been set against these net deferred tax assets. The $0.8 million deferred tax liability is recorded in other long-term liabilities on the balance sheet.

(Tabular data in thousands, except par value and per share data)

We do not provide for U.S. income taxes for any undistributed earnings of the Company's foreign subsidiaries, as the Company considers these to be permanently reinvested in the operations of such subsidiaries and have a cumulative foreign loss. At December 31, 2022 and 2021 these undistributed earnings losses totaled $2.5 million, and $8.9 million, respectively. If any earnings were distributed, some countries may impose withholding taxes. However, due to the Company's overall deficit in foreign cumulative earnings and its U.S. loss position, the Company does not believe a material net unrecognized U.S. deferred tax liability exists.

ASC 740 Income Taxes provides that the tax effects from an uncertain tax position can be recognized in the Company's financial statements only if the position is more-likely-than-not of being sustained on audit, based on the technical merits of the position. Tax positions that meet the recognition threshold are reported at the largest amount that is more-likely-than-not to be realized. This determination requires a high degree of judgment and estimation. The Company periodically analyzes and adjusts amounts recorded for the Company's uncertain tax positions, as events occur to warrant adjustment, such as when the statutory period for assessing tax on a given tax return or period expires or if tax authorities provide administrative guidance or a decision is rendered in the courts. The Company does not reasonably expect the total amount of uncertain tax positions to significantly increase or decrease within the next 12 months. As of December 31, 2022, the Company's uncertain tax positions were not significant for income tax purposes.

The following describes the open tax years, by major tax jurisdiction, as of December 31, 2022:

United States — Federal	2007 – present
United States — State	2008 – present
India	2013 – present
Mauritius	2006 – present

As of December 31, 2022, the Company had U.S. federal NOL carryforwards of approximately $231.0 million and state NOL carryforwards of approximately $300.0 million. The Company also has approximately $1.5 million of alcohol and cellulosic biofuel credit and $5.8 million of carbon oxide sequestration credit carry forwards. The federal net operating loss and other tax credit carryforwards expire on various dates between 2027 and 2038. The state net operating loss carryforwards expire on various dates between 2027 through 2042. Under the current tax law, net operating loss and credit carryforwards available to offset future income in any given year may be limited by US or India statute regarding net operating loss carryovers and timing of expirations or upon the occurrence of certain events, including significant changes in ownership interests. As of December 31, 2022, the Company's India subsidiary had no loss carryforwards.

(Tabular data in thousands, except par value and per share data)

14. Parent Company Financial Statements (Unaudited)

We conduct substantially all of our operations through subsidiaries and are dependent on cash distributions, dividends and other intercompany transfers of funds from our operations. Our subsidiaries have not made significant distributions to us and may not have funds available for dividends or distributions in the future. The ability of our subsidiaries to transfer funds to us will be dependent upon their respective abilities to achieve sufficient cash flows after satisfying their respective cash requirements, including subsidiary level debt service on their respective credit agreements. The following is a summary of the Parent Company Financial statements.

Aemetis, Inc. (Parent Company)
Balance Sheets
As of December 31, 2022 and 2021

	2022	2021
Assets		
Current assets		
Cash and cash equivalents	$ 286	$ -
Receivables due from subsidiaries	98,780	93,571
Prepaid expenses	611	290
Other current assets	7	116
Total current assets	99,684	93,977
Investment in Aemetis Property Keyes, Inc.	1,274	496
Investment in Aemetis International, Inc.	6,659	2,546
Investment in Aemetis Advanced Products Riverbank, Inc.	173	23
Investment in Aemetis Carbon Capture, Inc.	-	54
Total investments in Subsidiaries, net of advances	8,106	3,119
Property, plant and equipment, net	135	36
Other assets	2,377	2,475
Total Assets	$ 110,302	$ 99,607
Liabilities & stockholders' deficit		
Current liabilities		
Accounts payable	$ 2,934	$ 3,024
Mandatorily redeemable Series B convertible preferred	4,082	3,806
Other current liabilities	4,269	9,521
Total current liabilities	11,285	16,351
Long term liabilities:		
Operating lease liability	2,047	2,318
Subsidiary obligation in excess of investment		
Investment in AE Advanced Fuels, Inc.	177,856	150,424
Investment in Aemetis Americas, Inc	205	205
Investment in Aemetis Biofuels, Inc.	2,738	2,738
Investment in Aemetis Technologies, Inc.	4,716	4,536
Investment in AE Advanced Products Keyes , Inc.	270	383
Investment in Aemetis Health Products, Inc.	2,076	2,137
Investment in Goodland Advanced Fuels, Inc.	16,869	13,587
Investment in Aemetis Biogas LLC	91,292	27,166
Investment in Aemetis Carbon Capture Inc	2,323	-
Investment in Aemetis Properties Riverbank, Inc.	479	-
Total subsidiary obligation in excess of investment	298,824	201,176
Total long term liabilities	300,871	203,494
Stockholders' deficit		
Series B Preferred convertible stock	1	1
Common stock	36	33
Additional paid-in capital	232,546	205,305
Accumulated deficit	(428,985)	(321,227)
Accumulated other comprehensive loss	(5,452)	(4,350)
Total stockholders' deficit	(201,854)	(120,238)
Total liabilities & stockholders' deficit	$ 110,302	$ 99,607

(Tabular data in thousands, except par value and per share data)

Aemetis, Inc. (Parent Company)
Statements of Operations and Comprehensive Loss
For the Years Ended December 31, 2022 and 2021

	2022	2021
Equity in subsidiary losses	$ (91,561)	$ (34,400)
Selling, general and administrative expenses	15,203	11,806
Operating loss	(106,764)	(46,206)
Other (income) expense		
Interest expense	806	1,031
Debt related fees and amortization expense	1,581	-
Other income	(1,400)	(97)
Loss before income taxes	(107,751)	(47,140)
Income tax expense	7	7
Net loss	(107,758)	(47,147)
Other comprehensive loss		
Foreign currency translation adjustment	(1,102)	(27)
Comprehensive loss	$ (108,860)	$ (47,174)

(Tabular data in thousands, except par value and per share data)

Aemetis, Inc. (Parent Company)
Statements of Cash Flows
For the years ended December 31, 2022 and 2021

	2022	2021
Operating activities:		
Net loss	(107,758)	(47,147)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	6,410	3,928
Depreciation	29	8
Debt related fees and amortization expense	1,776	-
Subsidiary portion of net losses	91,561	34,400
Gain on debt extinguishment	-	(421)
Gain on litigation	(1,400)	-
Changes in assets and liabilities:		
Prepaid expenses	111	(38)
Accounts payable	(90)	(1,043)
Accrued interest expense	778	998
Other liabilities	(4,625)	(902)
Other assets	207	109
Net cash used in operating activities	(13,001)	(10,108)
Investing activities:		
Capital expenditures	(128)	-
Subsidiary advances, net	1,222	(95,105)
Net cash provided by (used in) investing activities	1,094	(95,105)
Financing activities:		
Proceeds from the exercise of stock options	206	1,304
Proceeds from issuance of common stock in equity offering	11,987	103,591
Net cash provided by financing activities	12,193	104,895
Net increase in cash, cash equivalents, and restricted cash	286	(318)
Cash, cash equivalents and restricted cash at beginning of period	-	318
Cash, cash equivalents, and restricted cash at end of period	$ 286	$ -
Supplemental disclosures of cash flow information, cash paid:		
Income taxes paid	7	7
Supplemental disclosures of cash flow information, non-cash transactions:		
Fair value of warrants issued to subordinated debt holders	1,939	1,546
Fair value of stock issued to a related party for guarantee fees	2,012	-
Fair value of warrants issued for capital expenditures	-	1,344
Fair value of warrants issued to lender for debt issuance costs	3,158	-
Fair value of stock issued to lender	1,335	-
Issuance of equity to pay off accounts payable	-	893

15. Subsequent Events

Subordinated Notes

On January 1, 2023, the maturity on two accredited investor's Subordinated Notes was extended until the earlier of (i) June 30, 2023; (ii) completion of an equity financing by AAFK or Aemetis in an amount of not less than $25 million; (iii) the completion of an Initial Public Offering by AAFK or Aemetis; or (iv) after the occurrence of an Event of Default, including failure to pay interest or principal when due and breaches of note covenants. A $90 thousand and $250 thousand cash extension fee was paid by adding the fee to the balance of the new Subordinated Note and 113 thousand Aemetis, Inc. common stock warrants were granted with a term of two years and an exercise price of $0.01 per share.

Second Waiver and Amendment to Series A Preferred Unit Purchase Agreement

On January 1st, 2023, ABGL entered into the Second Waiver and Amendment to Series A Preferred Unit Purchase Agreement (“PUPA Second Amendment") providing for: (i) a waiver for not complying to redeem all Series A Preferred Units by December 31, 2022, and (ii) provides ABGL the right to redeem all of the outstanding Series A Preferred Units by May 31, 2023, for $125 million. The PUPA Amendment further provides that failure to redeem the Series A Preferred Units by the redemption date, ABGL is required to enter into a credit agreement with Protair and Third Eye Capital effective as of June 1, 2023, in substantially the form attached to the PUPA Amendment. We will evaluate the terms of the PUPA Second Amendment No.2 in accordance with ASC 470.

Third Eye Reserve Liquidity Facility

On March 6, 2023, Third Eye agreed to extend a one-year reserve liquidity facility governed by a promissory note of $50.0 million to April 1, 2024. Borrowings under the facility are available until maturity on April 1, 2024. Interest on borrowed amounts accrues at a rate of 30% per annum, paid monthly in arrears and may be capitalized and due upon maturity, or 40% if an event of default has occurred and continues. The outstanding principal balance of the indebtedness evidenced by the promissory note, plus any accrued but unpaid interest and any other sums due thereunder, shall be due and payable in full at the earlier to occur of (a) receipt by the Company or its affiliates of proceeds from any sale, merger, equity or debt financing, refinancing or other similar transaction from any third party and (b) April 1, 2024. Any amounts may be re-borrowed up to repaid amounts up until the maturity date of April 1, 2024. The promissory note is secured by liens and security interests upon the property and assets of the Company. In addition, if any initial advances are drawn under the facility, the Company will pay a non-refundable one-time fee in the amount of $0.5 million provided that such fee may be added to the principal amount of the promissory note on the date of such initial advance.

Third Eye Capital Limited Waiver and Amendment No. 25

On March 6, 2023, Third Eye Capital agreed to the Limited Waiver and Amendment No. 25 to the Note Purchase Agreement (“Amendment No. 25”) to: provide a waiver for the Keyes Plant Minimum Quarterly Production violation for the quarter ended March 31, 2023, in which the Borrowers will not meet the 10 million gallon production requirement. As consideration for such waivers, the Borrowers also agreed to pay Third Eye Capital an amendment and waiver fee of $0.1 million in cash.

16. Liquidity

The accompanying financial statements have been prepared contemplating the realization of assets and satisfaction of liabilities in the normal course of business. As a result of negative capital and negative operating results, and collateralization of substantially all of the Company assets, we have been reliant on its senior secured lender to provide additional funding and have been required to remit substantially all excess cash from operations to the senior secured lender. In order to meet our obligations during the next twelve months, we will need to either refinance our debt or receive the continued cooperation of its senior lender. We plan to pursue the following strategies to improve the course of the business.

For the Keyes Plant, we plan to operate the plant and continue to improve its financial performance by adopting new technologies or process changes that allow for energy efficiency, cost reduction or revenue enhancements, as well as, execute upon awarded grants that improve energy and operational efficiencies resulting in lower cost, lower carbon demands and overall margin improvement.

For Aemetis Biogas we plan to operate the biogas digesters to capture and monetize biogas as well as continue to build new dairy digesters and extend the existing pipeline in order to capture the higher carbon credits available in California. Funding for continued construction is based upon obtaining government guaranteed loans and executing on existing and new state grant programs.

For the Riverbank project, we plan to raise the funds necessary to construct and operate the Carbon Zero plant in Riverbank, CA using loan guarantees and public financings based upon the licensed technology that generate federal and state carbon credits available for ultra-low carbon fuels utilizing lower cost, non-food advanced feedstocks to significantly increase margins.

For all facilities in the United States, we plan to utilize the provision of the Inflation Reduction Act of 2022 by qualifying for renewable energy credits, whether in the form of an Investment Tax Credit, Producers Tax Credit or other credits and monetize the credits using the provisions of this congressional act.

For the Kakinada Plant, we plan to continue to develop sales channels for domestic products as the costs of feedstock normalize against the price of diesel, as recently announced governmental incentives take effect to promote the blending of biodiesel, and as feedstocks such as refined animal tallow are used domestically and exported. Additionally, we are in the process of obtaining approval to export refined animal tallow and biodiesel produced using animal tallow into international markets as the use of refined animal tallow received approval from the Pollution Control Board of India for production of biodiesel.

In addition to the above we plan to continue to locate funding for existing and new business opportunities through a combination of working with our senior lender, restructuring existing loan agreements, selling bonds in the taxable and tax-exempt markets, selling equity through the ATM and otherwise, selling the current EB-5 Phase II offering, or by vendor financing arrangements.

(Tabular data in thousands, except par value and per share data)

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Aemetis, Inc.

Date: March 9, 2023

By: /s/ Eric A. McAfee
Eric A. McAfee
Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Eric A. McAfee and Todd A. Waltz, and each of them, his true and lawful attorneys-in-fact, each with full power of substitution, for him in any and all capacities, to sign any amendments to this report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact or their substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

Name	Title	Date
/s/ Eric A. McAfee Eric A. McAfee	Chairman of the Board/Chief Executive Officer (Principal Executive Officer and Director)	March 9, 2023
/s/ Todd Waltz Todd Waltz	Chief Financial Officer (Principal Financial and Accounting Officer)	March 9, 2023
/s/ Francis Barton Fran Barton	Director	March 9, 2023
/s/ Lydia I. Beebe Lydia I. Beebe	Director	March 9, 2023
/s/ John R. Block John R. Block	Director	March 9, 2023
/s/ Naomi L Boness Naomi L. Boness	Director	March 9, 2023
/s/ Timothy Simon Timothy Simon	Director	March 9, 2023

Exhibit 10.100

SIXTH AMENDED AND RESTATED PROMISSORY NOTE

March 6, 2023

FOR VALUE RECEIVED, the undersigned, AEMETIS ADVANCED FUELS KEYES, INC., a Delaware corporation ("***AAFK***"), AEMETIS FACILITY KEYES, INC., a Delaware corporation ("***Keyes Facility***", and together with AAFK, "***Borrowers***") and AEMETIS, INC., a Nevada corporation ("***Parent***", and together with Borrowers, the "***Obligors***") jointly and severally promise to pay to the order of THIRD EYE CAPITAL CORPORATION and/or its affiliates including THIRD EYE CAPITAL MANAGEMENT INC. (the "***Lender***") the Aggregate Principal Amount as set forth below, at its offices or such other place as the Lender may designate in writing.

This Amended and Restated Promissory Note (the "**Note**") is an amendment and restatement of that original Promissory Note dated March 27, 2018 (the "**Original Note**"). All debts and other obligations under the Original Note shall be continuing with the only terms thereof being modified as provided in this Note and previous amendments, and this Note shall not be deemed to evidence or result in a novation of such debt or other obligations. This Note is being issued to the Lender in connection with the Amended and Restated Note Purchase Agreement made as of July 6, 2012 (as amended, restated, supplemented, revised, or replaced from time to time, the "**NPA**") by and among the Obligors, Third Eye Capital Corporation, as agent for the Noteholders (the "**Agent**") and the Noteholders. Capitalized terms used but not defined herein shall have the meaning given to them in the NPA. Notwithstanding anything indicated herein or in the NPA, this Note is deemed to be one of the Notes under the NPA, is a Note Purchase Document and this Note and the obligations hereunder are subject to the provisions of the NPA.

1. **Availability.** Subject to all of the terms and conditions of this Note, the Lender agrees to make available, for the Borrowers' use during the term and prior to the Maturity Date (defined below), total credit of up to, but not exceeding, Fifty Million ($50,000,000) Dollars (the "**Commitment**") plus Capitalized Interest and Capitalized Fee (each defined below).

2. **Use of Proceeds.** The principal amount of this Note advanced to the Obligors (the "**Principal Amount**") shall be used for working capital purposes, the repayment of outstanding indebtedness (whether secured or unsecured and owed to the Lender or third party) and to pay the Fee (as defined below).

3. **Advances.** The Obligors may receive advances under this Note up to the Commitment at their discretion (each, an "**Advance**") by providing five (5) Business Days' prior written notice of their request for an Advance hereunder and the proposed use of proceeds of such Advance, provided that such Advances shall be in a minimum amount of $100,000 and in increments of $50,000.

4. **Interest.** From the date hereof until the repayment of this Note in full, interest on the Principal Amount plus any accrued or Capitalized Interest and Capitalized Fee (the aggregate being the "**Aggregate Principal Amount**") outstanding shall be calculated at the rate of 30% per annum, and paid monthly in arrears on the last day of each month (each, an "**Interest Calculation Date**"); provided, however, that upon and during the occurrence of an Event of Default under the NPA or this Note or the non-payment of this Note by the Maturity Date, the interest rate shall be increased to 40% per annum. At the election of the Obligors, on each Interest Calculation Date, all of the interest accrued on the then Aggregate Principal Amount and not previously capitalized as of such Interest Calculation Date (all such interest being referred to in this Agreement as "**Capitalized Interest**"), will be added to the Aggregate Principal Amount advanced to the Borrower hereunder as of such Interest Calculation Date. The Aggregate Principal Amount (as so increased by such Capitalized Interest) will bear interest at the interest rate indicated herein from and after such Interest Calculation Date.

5. **Standby Fee**. From the date hereof until the earlier of: (i) the early termination of this Note by the parties hereto; and (ii) the Maturity Date, the Borrowers hereunder shall pay to the Lender a standby fee calculated at the rate per annum equal to two percent (2%) of the difference between the average of the Aggregate Principal Amount outstanding and the Commitment, calculated and payable monthly in arrears either in cash or in common stock of the Parent (at the equivalent of 110% of the cash amount of such fee on the date of issuance of such stock) on the first Business Day following the end of each month and on the Maturity Date.

6. **Maturity Date.** The outstanding principal balance of the indebtedness evidenced hereby, plus any accrued but unpaid interest, obligations, fees and any other sums owing hereunder, shall be due and payable in full on April 1, 2024 (the "**Maturity Date**"). The Obligors shall be required to repay the indebtedness under any Advances hereunder from: (a) the proceeds of the closing of any new debt or equity financings, refinancing or other similar transaction between the Lender or any fund or entity arranged by the Lender and any Obligor or any Affiliate thereof; and (b) the receipt by an Obligor or Affiliate thereof of proceeds from any sale, merger, equity or debt financing (including without limitation any EB-5 financing), refinancing or other similar transaction from any third party, after the repayment of the indebtedness outstanding pursuant to the NPA. The Obligors may reborrow any amounts so repaid up until the Maturity Date upon the terms and conditions hereof.

7. **Advance Fee.** Upon any Obligor making a request for an Advance, the Obligor shall pay to the Lender a one-time fee (the "**Fee**") in the amount of $500,000 which shall be deemed earned and non-refundable on the date of such initial Advance, provided that such Fee may be added to the Principal Amount on the date of such initial Advance made pursuant to this Note (the "**Capitalized Fee**").

8. **Conditions to Advances.** Administrative Agent shall have received from Aemetis all other approvals, opinions, documents, agreements, instruments, certificates, schedules and materials as Administrative Agent may request with respect to each proposed Advance.

9. **Acknowledgement of Security**. The Obligors hereby acknowledge, confirm and agree that this Note, and the obligations hereunder, are secured by valid and enforceable liens and security interests upon and in the property and assets of the Obligors as described in the NPA and the other Note Purchase Documents and reaffirm their obligations pursuant to all applicable Note Purchase Documents to which they are a party.

10. **Additional Obligations of the Obligors.** As further consideration of the Lender providing the funds contemplated under this Note, the Obligors hereby agree, upon the request of the Lender, to take such action, and execute and deliver such further documents as may be reasonably necessary or appropriate to give effect to the provisions and intent of this Note.

11. **Waivers**. Each Obligor hereby waives demand, presentment for payment, notice of dishonor, protest, and notice of protest and diligence in collection or bringing suit. Time is of the essence.

12. **Attorneys' Fees**. Each Obligor agrees to pay the reasonable attorneys' fees and costs incurred by the Lender in collecting on or enforcing the terms of this Note, whether by suit or otherwise.

13. **Paramountcy.** In the event of any conflicts between the provisions of this Note and any provisions of the NPA, solely in connection with this Note, the provisions of this Note shall prevail and be paramount.

14. **Severability**. In the event any one or more of the provisions of this Note shall for any reason be held to be invalid, illegal, or unenforceable, in whole or in part or in any respect, or in the event that any one or more of the provisions of this Note operate or would prospectively operate to invalidate this Note, then and in any such event, such provision(s) only shall be deemed null and void and shall not affect any other provision of this Note and the remaining provisions of this Note shall remain operative and in full force and effect and in no way shall be affected, prejudiced, or disturbed thereby.

15. **Miscellaneous**. This Note and the obligations hereunder may not be assigned by Obligors without the prior written consent of the Lender. This Note and the rights hereunder may be assigned by Lender without the consent of the Obligors. As used herein, the terms "Obligors" and "Lender" shall be deemed to include their respective successors, legal representatives and assigns, whether by voluntary action of the parties or by operation of law. Each Obligor hereby submits to jurisdiction in the State of Delaware and this Note shall be governed by and be construed in accordance with the laws of the State of Delaware. This Note may not be modified except by written agreement signed by the Obligors and the Lender.

[***Signature Page Follows***]

IN WITNESS WHEREOF, each Obligor has caused this Note to be executed and delivered under seal as of the date first set forth above.

BORROWERS:

AEMETIS ADVANCED FUELS KEYES, INC.

By: /s/ Eric A. McAfee
Name: Eric A. McAfee
Title: Chief Executive Officer

AEMETIS FACILITY KEYES, INC.

By: /s/ Eric A. McAfee
Name: Eric A. McAfee
Title: Chief Executive Officer

PARENT:

AEMETIS, INC.

By: /s/ Eric A. McAfee
Name: Eric A. McAfee
Title: Chief Executive Officer

Accepted and Acknowledged by:
THIRD EYE CAPITAL CORPORATION
THIRD EYE CAPITAL MANAGEMENT INC.
By: /s/ Arif N. Bhalwani
Name: Arif N. Bhalwani
Title: Managing Director

LIMITED WAIVER AND AMENDMENT NO. 25 TO AMENDED AND RESTATED NOTE PURCHASE AGREEMENT

This Limited Waiver and Amendment No. 25 to Amended and Restated Note Purchase Agreement (this "**Amendment**"), is dated as of March 6, 2023, is made by and among (i) **AEMETIS ADVANCED FUELS KEYES, INC.**, a Delaware corporation ("**AEFK**"), **AEMETIS FACILITY KEYES, INC.**, a Delaware corporation ("**Keyes Facility**", together with AEFK, the "**Borrowers**"), **AEMETIS, INC.**, a Nevada corporation ("**Parent**"), and (ii) **THIRD EYE CAPITAL CORPORATION**, an Ontario corporation, as agent for the Noteholders ("**Administrative Agent**").

RECITALS

A. The Borrowers, Administrative Agent and Noteholders entered into the Amended and Restated Note Purchase Agreement dated as of July 6, 2012, as amended from time to time including most recently by an Amendment No. 24 dated as of August 8, 2022 (as the same may be amended, restated, supplemented, revised or replaced from time to time, the "**Agreement**"). Capitalized terms used but not defined in this Amendment shall have the meaning given to them in the Agreement.

B. The Borrowers have requested, and the Administrative Agent has agreed to waive certain financial covenants included in the Agreement, in each case on the terms and conditions contained herein.

AGREEMENT

SECTION 1. **Reaffirmation of Indebtedness**. The Borrowers hereby confirm that as of February 28, 2023, the outstanding principal balance of the Notes (including accrued interest) is $103,027,138.86.

SECTION 2. **Recitals Part of Agreement**. The foregoing recitals are hereby incorporated into and made a part of the Agreement, including all defined terms referenced therein.

SECTION 3. **Keyes Plant Minimum Quarterly Production Waiver**.

(1) Based on the information provided to the Administrative Agent by the Borrowers, the Borrowers reported that their Keyes Plant Minimum Quarterly Production for the quarter ended March 31, 2023, will fall below the 10 million gallon requirement in Section 6.2(a) of the Agreement on account of the Borrowers undertaking necessary plant care and maintenance shutdown, which non-compliance would, but for this waiver, constitute an Event of Default under the Agreement (the "**Production Violation**").

(2) Subject to the terms of this Amendment, the Administrative Agent waives, as of the Effective Date, the Production Violation; provided that the Borrowers shall be and remain obligated to comply with their obligations as stated in Section 6.2(a) of the Agreement, on a going forward basis thereafter.

SECTION 6. **Conditions to Effectiveness**.

This Amendment shall be effective on the date first written above but subject to satisfaction of the following conditions precedent:

(A) Administrative Agent shall have been paid an amendment fee in the amount of $100,000 in cash on the date of this Amendment, which fee shall be deemed fully earned and nonrefundable on the effective date of this Amendment.

(B) Borrowers shall, and will cause the other Company Parties to, have performed and complied with all of the covenants and conditions required by this Amendment and the Note Purchase Documents to be performed and complied with upon the effective date of this Amendment.

(C) Administrative Agent shall have received all other approvals, opinions, documents, agreements, instruments, certificates, schedules and materials as Administrative Agent may reasonably request.

Each Borrower acknowledges and agrees that the failure to perform, or to cause the performance of, the covenants and agreements in this Amendment will constitute an Event of Default under the Agreement and Administrative Agent and Noteholders shall have the right to demand the immediate repayment in full in cash of all outstanding Indebtedness owing to Administrative Agent and Noteholders under the Agreement, the Notes and the other Note Purchase Documents. In consideration of the foregoing and the transactions contemplated by this Amendment, each Borrower hereby: (i) ratifies and confirms all of the obligations and liabilities of such Borrower owing pursuant to the Agreement and the other Note Purchase Documents, and (ii) agrees to pay all costs, fees and expenses of Administrative Agent and Noteholders in connection with this Amendment.

SECTION 7. **Agreement in Full Force and Effect as Amended**.

Except as specifically amended or waived hereby, the Agreement and other Note Purchase Documents shall remain in full force and effect and are hereby ratified and confirmed as so amended. Except as expressly set forth herein, this Amendment shall not be deemed to be a waiver, amendment or modification of, or consent to or departure from, any provisions of the Agreement or any other Note Purchase Document or any right, power or remedy of Administrative Agent or Noteholders thereunder, nor constitute a course of dealing or other basis for altering any obligation of the Borrowers, or a waiver of any provision of the Agreement or any other Note Purchase Document, or any other document, instrument or agreement executed or delivered in connection therewith or of any Default or Event of Default under any of the foregoing, in each case whether arising before or after the execution date of this Amendment or as a result of performance hereunder or thereunder. This Amendment shall not preclude the future exercise of any right, remedy, power, or privilege available to Administrative Agent or Noteholders whether under the Agreement, the other Note Purchase Documents, at law or otherwise. All references to the Agreement shall be deemed to mean the Agreement as modified hereby. This Amendment shall not constitute a novation or satisfaction and accord of the Agreement or any other Note Purchase Documents, but rather shall constitute an amendment thereof. The parties hereto agree to be bound by the terms and conditions of the Agreement and Note Purchase Documents as amended by this Amendment, as though such terms and conditions were set forth herein. Each reference in the Agreement to "this Agreement," "hereunder," "hereof," "herein" or words of similar import shall mean and be a reference to the Agreement as amended by this Amendment, and each reference herein or in any other Note Purchase Documents to "the Agreement" shall mean and be a reference to the Agreement as amended and modified by this Amendment.

SECTION 8. **Representations by Parent and Borrowers**.

Each of the Parent and the Borrowers hereby represents and warrants to Administrative Agent and Noteholders as of the execution date of this Amendment as follows: (A) it is duly incorporated, validly existing and in good standing under the laws of its jurisdiction of incorporation; (B) the execution, delivery and performance by it of this Amendment and all other Note Purchase Documents executed and delivered in connection herewith are within its powers, have been duly authorized, and do not contravene (i) its articles of incorporation, bylaws or other organizational documents, or (ii) any applicable law; (C) no consent, license, permit, approval or authorization of, or registration, filing or declaration with any Governmental Entity or other Person, is required in connection with the execution, delivery, performance, validity or enforceability of this Amendment or any other Note Purchase Documents executed and delivered in connection herewith by or against it; (D) this Amendment and all other Note Purchase Documents executed and delivered in connection herewith have been duly executed and delivered by it; (E) this Amendment and all other Note Purchase Documents executed and delivered in connection herewith constitute its legal, valid and binding obligation enforceable against it in accordance with their terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the enforcement of creditors' rights generally or by general principles of equity; (F) it is not in default under the Agreement or any other Note Purchase Documents and no Event of Default exists, has occurred and is continuing or would result by the execution, delivery or performance of this Amendment; and (G) the representations and warranties contained in the Agreement and the other Note Purchase Documents are true and correct in all material respects as of the execution date of this Amendment as if then made, except for such representations and warranties limited by their terms to a specific date.

SECTION 9. **Miscellaneous**.

(A) This Amendment may be executed in any number of counterparts (including by facsimile or email), and by the different parties hereto on the same or separate counterparts, each of which shall be deemed to be an original instrument but all of which together shall constitute one and the same agreement. Whenever the context and construction so require, all words herein in the singular number herein shall be deemed to have been used in the plural, and vice versa. The use of the word "including" in this Amendment shall be by way of example rather than by limitation. The use of the words "and" or "or" shall not be inclusive or exclusive.

(B) This Amendment may not be changed, amended, restated, waived, supplemented, discharged, canceled, terminated or otherwise modified without the written consent of the Borrowers and Administrative Agent. This Amendment shall be considered part of the Agreement and shall be a Note Purchase Document for all purposes under the Agreement and other Note Purchase Documents.

(C) This Amendment, the Agreement and the Note Purchase Documents constitute the final, entire agreement and understanding between the parties with respect to the subject matter hereof and thereof and may not be contradicted by evidence of prior, contemporaneous or subsequent oral agreements between the parties, and shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto and thereto. There are no unwritten oral agreements between the parties with respect to the subject matter hereof and thereof.

(D) This Amendment and the rights and obligations of the parties under this Amendment shall be governed by and construed and interpreted in accordance with the choice of law provisions set forth in the Agreement and shall be subject to the waiver of jury trial and notice provisions of the Agreement.

(E) Neither the Parent nor any Borrower may assign, delegate or transfer this Amendment or any of their rights or obligations hereunder. No rights are intended to be created under this Amendment for the benefit of any third party done, creditor or incidental beneficiary of the Borrowers or any Company Party. Nothing contained in this Amendment shall be construed as a delegation to Administrative Agent or Noteholders of the Borrowers or any Company Party's duty of performance, including any duties under any account or contract in which Administrative Agent or Noteholders have a security interest or lien. This Amendment shall be binding upon the Borrowers, the Parent and their respective successors and assigns.

(F) All representations and warranties made in this Amendment shall survive the execution and delivery of this Amendment and no investigation by Administrative Agent or Noteholders shall affect such representations or warranties or the right of Administrative Agent or Noteholders to rely upon them.

(G) THE BORROWERS AND THE PARENT ACKNOWLEDGE THAT SUCH PERSON'S PAYMENT OBLIGATIONS ARE ABSOLUTE AND UNCONDITIONAL WITHOUT ANY RIGHT OF RECISSION, SETOFF, COUNTERCLAIM, DEFENSE, OFFSET, CROSS-COMPLAINT, CLAIM OR DEMAND OF ANY KIND OR NATURE WHATSOEVER THAT CAN BE ASSERTED TO REDUCE OR ELIMINATE ALL OR ANY PART OF ITS LIABILITY TO REPAY THE "OBLIGATIONS" OR TO SEEK AFFIRMATIVE RELIEF OR DAMAGES OF ANY KIND OR NATURE FROM ADMINISTRATIVE AGENT OR ANY NOTEHOLDER. THE BORROWERS AND THE PARENT HEREBY VOLUNTARILY AND KNOWINGLY RELEASE AND FOREVER DISCHARGE ADMINISTRATIVE AGENT AND EACH NOTEHOLDER AND THEIR RESPECTIVE PREDECESSORS, ADMINISTRATIVE AGENTS, EMPLOYEES, SUCCESSORS AND ASSIGNS (COLLECTIVELY, THE "RELEASED PARTIES"), FROM ALL POSSIBLE CLAIMS, DEMANDS, ACTIONS, CAUSES OF ACTION, DAMAGES, COSTS, EXPENSES, AND LIABILITIES WHATSOEVER, KNOWN OR UNKNOWN, ANTICIPATED OR UNANTICIPATED, SUSPECTED OR UNSUSPECTED, FIXED, CONTINGENT, OR CONDITIONAL, AT LAW OR IN EQUITY, ORIGINATING IN WHOLE OR IN PART ON OR BEFORE THE DATE THIS AMENDMENT IS EXECUTED, WHICH SUCH PERSON MAY NOW OR HEREAFTER HAVE AGAINST THE RELEASED PARTIES, IF ANY, AND IRRESPECTIVE OF WHETHER ANY SUCH CLAIMS ARISE OUT OF CONTRACT, TORT, VIOLATION OF LAW OR REGULATIONS, OR OTHERWISE, AND ARISING FROM ANY "LOANS", INCLUDING ANY CONTRACTING FOR, CHARGING, TAKING, RESERVING, COLLECTING OR RECEIVING INTEREST IN EXCESS OF THE HIGHEST LAWFUL RATE APPLICABLE, THE EXERCISE OF ANY RIGHTS AND REMEDIES UNDER THE AGREEMENT OR OTHER NOTE PURCHASE DOCUMENTS, AND NEGOTIATION FOR AND EXECUTION OF THIS AMENDMENT.

{Signatures appear on following pages.}

IN WITNESS WHEREOF, the parties hereto have executed this Amendment effective as of the date first noted above.

BORROWERS:

AEMETIS ADVANCED FUELS KEYES, INC.

By: /s/ Eric A. McAfee
Name: Eric A. McAfee
Title: Chief Executive Officer

AEMETIS FACILITY KEYES, INC.

By: /s/ Eric A. McAfee
Name: Eric A. McAfee
Title: Chief Executive Officer

PARENT:

AEMETIS, INC.

By: /s/ Eric A. McAfee
Name: Eric A. McAfee
Title: Chief Executive Officer

ADMINISTRATIVE AGENT:

THIRD EYE CAPITAL CORPORATION

By: /s/ Arif N. Bhalwani
Name: Arif N. Bhalwani
Title: Managing Director

Exhibit 21.1

List of Subsidiaries

- Biofuels Marketing, Inc.
- Aemetis Biochemicals, Inc.
- Aemetis Advanced Products Keyes, Inc.
  - Aemetis Riverbank, Inc.
    - Aemetis Advanced Products Riverbank, Inc.
  - Aemetis Properties Riverbank, Inc.
  - Aemetis Health Products, Inc.
- Aemetis Carbon Capture, Inc.
- Aemetis International, Inc.
  - International Biofuels Ltd (Mauritius)
    - Universal Biofuels Private Limited (India)
- Aemetis Technologies, Inc.
- Aemetis Biofuels, Inc.
  - Energy Enzymes, Inc.
- AE Advanced Fuels, Inc.
  - Aemetis Advanced Fuels Keyes, Inc.
  - Aemetis Facility Keyes, Inc.
  - Aemetis Property Keyes, Inc.
- Aemetis Advanced Fuels, Inc.
  - EdenIQ Acquisition Corp
- Aemetis Americas, Inc.
  - AE Biofuels, Inc.
- Aemetis Advanced Biorefinery Keyes, Inc.
- Aemetis Biogas LLC.
  - Aemetis Biogas Holdings LLC.
  - Aemetis Biogas Services LLC.
  - Aemetis Biogas 1 LLC.
  - Aemetis Biogas 2 LLC.
  - Aemetis Biogas 3 LLC.
  - Aemetis Biogas 4 LLC.
- Goodland Advanced Fuels, Inc.

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements (No. 333-159556, No. 333-194423, No. 333-194429, No. 333-202327, No. 333-209620, No. 333-216762, No. 333-224002, No. 333-230293, No. 333-237101, No. 333-248489, No. 333-249188, No. 333-254267 and No. 333-263452) on Form S-8 and Registration Statements (No. 333-248492 and No. 333-258322) on Form S-3 of our report dated March 8, 2023, relating to the consolidated financial statements of Aemetis, Inc. ("the Company"), and the effectiveness of the Company's internal control over financial reporting (which report expresses an adverse opinion on the effectiveness of the Company's internal control over financial reporting because of a material weakness), appearing in the Annual Report on Form 10-K of the Company for the year ended December 31, 2022.

/s/ RSM US LLP
Des Moines, Iowa
March 8, 2023

Exhibit 31.1

CERTIFICATIONS

I, Eric A. McAfee, certify that:

1. I have reviewed this Annual Report on Form 10-K of Aemetis, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2023

/s/ Eric A. McAfee
Eric A. McAfee
Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Todd Waltz, certify that:

1. I have reviewed this Annual Report on Form 10-K of Aemetis, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2023

/s/ Todd Waltz
Todd Waltz
Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Aemetis, Inc. (the “Company”) on Form 10-K for the year ending December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report “), I, Eric A. McAfee, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities and Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Eric A. McAfee
Eric A. McAfee
Chief Executive Officer

Date: March 9, 2023

Exhibit 32.2

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Aemetis, Inc. (the "Company") on Form 10-K for the year ending December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Todd Waltz, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities and Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Todd Waltz
Todd Waltz
Chief Financial Officer

Date: March 9, 2023